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CITY COUNCIL OF SINGAPORE



ANNUAL REPORT OF THE
HEALTH DEPARTMENT 1952



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ANNUAL REPORT OF THE HEALTH DEPARTMENT 1952

BY
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City Health Officer

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HEALTH DEPARTMENT

IN THIS report, in order to comply with the Council's economy campaign with regard to annual reports, the brief summaries and comments on the reports and work of the various branches of the Department which were published hitherto in the Department's Annual Reports have had to be omitted. The various statistical tables which were previously published in the relevant sections of former reports are included as appendices to this report, and comments on the working of the Department have been confined to points of special interest or importance.

When reading this report and appendices it must be borne in mind that the rates quoted are uncorrected for 'inward' or 'outward' transfers unless otherwise stated; that patients from outside the town entering hospitals and other institutions providing medical facilities in the town adversely affect our Death and Infectious Diseases rates; that the age and sex distribution of our population is still abnormal; and that the number of deaths shown as due to the various diseases must necessarily be inaccurate, as something like 25 per cent of the persons who die in Singapore have had no medical advice or treatment before death, and the causes of their deaths have had to be surmised by Inspecting Officers without the aid of clinical observations or autopsies.

MID-YEAR POPULATION

The Registrar of Statistics' figure for our estimated mid-year populations, on which the statistics in the appendices are based is shown by races in this table: —

ESTIMATED MID-YEAR POPULATION BY RACES 1952

Malaysians	...	...	...	82,698
Chinese	...	...	...	603,935
Indians and Pakistanis	...	...	...	57,095
Europeans	...	...	...	9,857
Eurasians	...	...	...	9,135
Others	...	...	...	8,640
Total				771,360

Details concerning notifiable infectious disease, vital statistics, etc. and the work carried out by the various sub-departments are set out in appendices as follows: —

- Appendix A—Notifiable Infectious Diseases.
- „ B—General measures to combat spread of Infectious Diseases—Vaccination, etc.
- „ C—Birth and Still-Birth Statistics.
- „ D—General Death Rate, Infant Mortality Rate, Neo-natal Rates, etc...
Principal Causes of Death, Death by whom certified.
- „ E—Markets, Food, Licences Issued, Abattoirs, Burial Grounds;

and in the following reports and returns which are appended: —

- Anti-Mosquito Department.
- Report of the Analyst.
- Report of the Bacteriologist.
- Report of the Infant Welfare Department.
- Report of the Superintendent, Middleton Hospital.
- Report of the Market Inspector.
- Report of the Superintendent, Abattoirs.
- Chief Sanitary Inspector's Returns.

Summary of Principal Statistics, 1952:—

BIRTHS AND DEATH RATE, ETC.—ALL RACES COMBINED

Total births registered (all races combined)	...	...	36,529
Total deaths registered (all races combined)	...	...	9,372
Excess of births over deaths ...	...	...	27,157
Birth Rate	...	...	47.36
Death Rate per 1,000 estimated mid-year population	...	...	12.15
Malaria Death Rate	...	...	0.049
Infantile Mortality Rate	...	...	75.34
Neo-natal Rate	...	...	34.56
Still-Birth Rate per 1,000 live and still-births	...	...	19.17
Maternal Mortality Rate per 10,000 live-births	...	...	18.6

DEATHS BY WHOM CERTIFIED

			1951	1952
By Medical Practitioners	...	...	59.82%	63.30%
By Inspecting Officers	...	...	30.10%	25.90%
By Coroner	...	...	10.08%	10.80%

NOTIFIABLE INFECTIOUS DISEASES

	No.	No.	Deaths
Tuberculosis (all forms)	... 3,527 (including	537 non-residents)	... 1,140
Typhoid—cases notified	... 166 (including	30 non-residents)	... 12
Diphtheria—cases notified	... 460 (including	108 non-residents)	... 86
Leprosy—cases notified	... 138 (including	43 non-residents)	... 1
Poliomyelitis	... 59 (including	14 non-residents)	... 10
Small-pox, Cholera, Plague	... Nil.	Nil.	Nil.

DEATHS CERTIFIED AS DUE TO SOME OF THE NON-NOTIFIABLE INFECTIOUS AND PARASITIC DISEASES

			1951	1952
Dysentery—Bacillary	...	...	9	4
Unspecified	...	...	17	18
Amœbic	...	...	19	20
Malaria	...	...	54	38
Influenza	...	...	28	29
Whooping Cough and complications	...	...	1	7
Measles and complications	...	...	29	14
Lepto-spirosis (Weil's Disease)	...	...	4	4
Tetanus	...	...	46	42

NON-NOTIFIABLE INFECTIOUS DISEASES TREATED AT THE MIDDLETON HOSPITAL IN 1951 AND 1952

			1951	1952
Measles and Rubella	...	...	209	151
Whooping Cough	...	...	5	3
Amœbic Dysentery	...	...	105	92
Bacillary Dysentery	...	...	18	22
Clinical Dysentery	...	...	40	9

VACCINATION

Age Group (0-1)	...	...	29,045
" " (1-5)	...	...	43,387*
" " (5 and over)	...	...	242,262*
Total Vaccinated and Revaccinated	...	...	314,694

* Special Re-vaccination Campaign carried out during the year.

Work performed by Maternity and Infant Welfare Department:—

HOME VISITS BY SISTERS AND HEALTH VISITORS

	1951	1952
Mothers visited by District Sisters within 10 days of confinement	20,992	21,520
Visits by Health Visitors to individual new babies	28,462	28,639
Subsequent visits by Health Visitors to new babies	55,158	57,317
Visits to expectant mothers	3,391	2,129
Visits to homes of A.P.T. defaulters ...	1,842	2,802
Total visits paid by Sisters and Health Visitors to homes	109,845	112,387

ATTENDANCES AT CLINICS

	1951	1952
Individual babies attending Clinics	16,065	17,720
Subsequent attendances of these babies ...	79,467	85,020
Attendances of Pre-school children	7,455	27,215
Attendances of individual expectant mothers ...	2,599	2,593
Subsequent Attendances of expectant mothers ...	5,431	4,993

DIPHTHERIA IMMUNISATION

	1951	1952
Infants immunised (complete course)	3,691	5,777
Toddlers	2,263	22,720

B.C.G. INOCULATION

	1951	1952
Number infants and toddlers tested	5,164	9,165
Number infants and toddlers positive	—	3,387
Number infants and toddlers negative	—	4,609
Number infants and toddlers given B.C.G. ...	2,461	4,439

COUNCIL FREE MIDWIFERY SERVICE

	1951	1952
Number of confinements attended by Council Midwives	1,349	1,211
Number of visits paid to cases discharged from Government Maternity Hospital three or so days after confinement	3,017	3,160
Number of visits subsequently paid to known cases of confinement not attended by Doctors or Midwives	231	244

CONFINEMENTS

	1951	1952
In Government Maternity Hospital	13,923	15,059
In Private Maternity Homes and by Private Doctors	3,313	3,950
By Private Midwives	14,727	15,001
By Council Midwives	1,349	1,211
No Skilled Attention at Confinement	1,815	1,614
	<u>35,127</u>	<u>36,835</u>

HEALTH OF STAFF

AVERAGE STRENGTH OF JUNIOR SUBORDINATE AND OPEN VOTES STAFF, 1952

(a) Approximate average number of Junior and Subordinate Staff employed excluding females	...	...	...	2,050
(b) Approximate average number of Open Vote employees excluding females and juveniles	...	...	...	8,363

(Above figures supplied by Welfare Officer).

	Staff (a)	Open Votes (b)	Total (a) and (b)
Number of new cases attended to at dispensaries ..	4,445	32,510	36,955
Total number of attendances including first visits, at dispensaries	8,762	87,262	96,024
Number examined for physical fitness	457	1,678	2,135
Number of visits paid to homes by M.O. i/c. Staff ..	32	21	53
Number of cases treated by Private Doctors ..	1,454	3,345	4,799
Number of days sick leave granted including special T.B. leave by:—			
(a) M.Os. i/c. Staff	8,937	91,604	100,541
(b) Private Practitioners	4,191	12,003	16,194
(c) Hospitals	2,963	10,256	13,219
Total ..	16,091	113,863	129,954
Number of days special T.B. leave granted ..	547	4,681	5,228
Average number of days sick leave including T.B. leave, granted per male person employed in Junior, Subordinate and Open Votes Staff in 1952 ..	7.84	13.6	12.4

The points of special interest or importance in connection with the working of the Department during the year were as follows:—

TYPHOID

In last year's report reference was made to 30 persons who developed typhoid a short while after having partaken of a big dinner which was supplied by a food caterer. Early this year 20 persons who attended another big dinner contracted typhoid shortly afterwards. On investigation it was found that the caterer who supplied this dinner had also supplied the dinner previously referred to. The caterer was asked to furnish a list of all the persons who took part in the preparation and serving of the dinner this year and all of these were examined. One of them proved to be a typhoid carrier. This carrier had been overlooked and not examined on the previous occasion when we examined the caterer's employees as for some reason or other his name was not then included on the list of employees furnished by the caterer.

Bacterial cultures from several of the typhoid cases who had attended the second dinner referred to and from the carrier were sent for Vi phage typing to the Central Enteric Reference Laboratory London. All of these cultures proved to be Vi phage Type A.

ANTI-DIPHTHERIA IMMUNIZATION CAMPAIGN

Because of the prevalence of Diphtheria in infants and children an intensified Anti-Diphtheria Immunization Campaign was started in August. The response at first was fairly satisfactory but by the end of the year, the number being brought forward for immunization was most disappointing.

SPECIAL VACCINATION CAMPAIGN

During the year because there was a grave danger of small-pox being imported from surrounding countries where it was prevalent and as five or more years had elapsed since the bulk of the population in the City and Island had been vaccinated against this disease on any large scale, it was considered advisable to carry out a mass voluntary vaccination campaign in the City and Island. Between 20th August and the end of the year when the campaign came to a close at least 283,670 persons over 3 years of age had been re-vaccinated in the City Area alone. In addition to the revaccinations mentioned 29,045 primary vaccinations in young infants were also carried out.

B.C.G. VACCINATION

During the period January to August 9,165 infants and children were tested for suitability for B.C.G. vaccination. 4,439 of these were found suitable and were vaccinated. Because Prof. Heaf advised, when he visited the Colony in August, that the best results with B.C.G. work in Singapore were likely to be obtained by concentrating on contacts of cases and the immunization of the majority of persons in the higher age groups first and then working systematically down the various age groups to the youngest age group, work on B.C.G. immunization of infants and children in the clinics was discontinued in August.

ANTI-MALARIA WORK

The City Cleansing Department was requested by the Health Department to obliterate permanently the large low lying swampy area at Bendemeer by filling. This *A. sundaius* breeding ground has always proved difficult and costly to control effectively by oiling, tide gates, etc. Towards the close of the year the City Cleansing Department started filling work in this area.

During the year because of the high market price for scrap metal a great deal of extra work, especially oiling, had to be undertaken by the Anti-Mosquito Department to control *A. sundaius* breeding in numerous excavations made by unauthorized persons to extract the scrap metal disposed of by dumping immediately after the war in certain portions of the Kallang Basin which had subsequently been filled by the City Cleansing Department.

The rapid building development, which continued throughout the year in the City, cast a further heavy strain on the Anti-Mosquito Department because this necessitated the realignment of portions of certain A.M. drains to fit in with intended development, and also the control of the numerous mosquito breeding grounds created by building excavations. The conversion of still more of our anti-malaria drains into sullage drains as a result of building development also cast extra maintenance work on the Department.

KAMPONG SANITATION

The experimental work in connection with kampong sanitation was continued throughout the year but with the labour force available for the work it was not possible to extend the work to any further kampongs. Experience has shown that all of the labourers provided for this work must now be employed full time on the maintenance of the kampongs which have already been dealt with, i.e. in cleaning and removal of refuse from the numerous drains which perforce have poor gradients because of the long and tortuous corners through which they had to be taken between the various huts built in haphazard manner throughout these kampongs.

I take this opportunity of recording my grateful thanks to all members of the department both Senior and Junior for their continued loyal support.

N. A. CANTON, M.B., CH.B., B.A.O., D.P.H.,
City Health Officer.

TABLE 1
NOTIFIABLE INFECTIOUS DISEASES

The number of cases notified in persons who were stated to be ordinarily resident within the city area in 1952 and in the previous five years are shown in the table which follows:—

Year	1947	1948	1949	1950	1951	Average for 5 years	1952
Small-pox	42	5	..	..	..	9.4	..
Plague ..	..	..	..	..	..	..	..
Cholera ..	..	..	..	..	..	..	..
Typhoid Fever	70	70	61	129	85	83.0	136
Paratyphoid Fever	1	2	1	..	1	1.0	2
Diphtheria	131	193	241	224	392	236.2	352
Cerebro Spinal Fever	16	11	11	6	5	9.4	5
Typhus Fever (1)	8	16	24	13	15	15.2	16
Scarlet Fever	..	..	..	..	..	..	..
Leprosy ..	81	121	158	180	142	136.4	95
Poliomyelitis	1	120	54	72	60	61.4	45
Anthrax ..	..	..	..	..	..	..	..
Puerperal Fever	20	38	53	82	69	52.4	78
Erysipelas	3	13	20	10	8	10.8	16
Chicken-pox	317	329	402	466	594	421.6	413
Tuberculosis	3,412	4,078	4,247	3,684	3,219	3,728.0	2,990
Total ..	4,102	4,996	5,272	4,866	4,590	4,765.1	4,148

(1) Under the heading of Typhus are included Tsutsugamushi or Scrub Typhus of Malaya (Mite Borne) and Flea Borne, Urban Type Tropical Typhus Louse Borne Typhus has not been seen in Singapore.

TABLE 2

NOTIFIABLE INFECTIOUS DISEASES BY RACES FOR THE YEAR 1952

Race	Europeans	Eurasians	Chinese	Malays	Indians	Others	Total
Typhoid Fever	2	1	121	6	5	1	136
	(1)	(—)	(21)	(2)	(5)	(1)	(30)
Diphtheria	2	3	316	11	18	2	352
	(—)	(1)	(97)	(7)	(3)	(—)	(108)
Chicken-pox	6	21	150	39	195	2	413
	(3)	(3)	(16)	(9)	(56)	(1)	(88)
Puerperal Fever	—	—	23	49	6	—	78
	(—)	(—)	(1)	(—)	(1)	(—)	(2)
Poliomyelitis	8	2	27	2	6	—	45
	(5)	(—)	(6)	(2)	(1)	(—)	(14)
Cerebro-Spinal Fever	—	—	3	—	2	—	5
	(1)	(—)	(1)	(—)	(—)	(—)	(2)
Tuberculosis	—	11	2,632	146	189	12	2,990
	(2)	(1)	(448)	(41)	(45)	(—)	(537)
Paratyphoid Fever	—	—	2	—	—	—	2
	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Small-pox	—	—	—	—	—	—	—
	(—)	(—)	(—)	(—)	(—)	(—)	(—)
Leprosy	—	—	75	1	19	—	95
	(—)	(—)	(41)	(1)	(1)	(—)	(43)
Typhus Fever	—	—	6	2	8	—	16*
	(—)	(—)	(1)	(—)	(4)	(—)	(5)†
Erysipelas	1	—	9	4	2	—	16
	(—)	(—)	(1)	(—)	(—)	(—)	(1)
Total	19	38	3,364	260	450	17	4,148
	(12)	(5)	(633)	(62)	(116)	(2)	(830)

The figures not in brackets are of cases notified in persons ordinarily resident in the city area.

The figures in brackets are imported cases and cases from Rural Board treated in hospitals or institutions in the city area but not ordinarily resident in the city area.

* 12 mite borne and 4 flea borne.

† 3 mite borne and 2 flea borne.

TABLE 3

NOTIFIABLE INFECTIOUS DISEASES BY MONTHS FOR THE YEAR 1952

(Figures in brackets are cases in non-residence)

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhoid Fever	28 (5)	13 (4)	15 (3)	20 (2)	11 (2)	15 (5)	1 (—)	1 (1)	5 (5)	7 (—)	10 (—)	10 (3)	136 (30)
Diphtheria	29 (13)	28 (9)	35 (4)	40 (12)	21 (8)	33 (5)	36 (13)	41 (4)	30 (12)	18 (10)	18 (7)	23 (11)	352 (108)
Chicken-pox	25 (9)	26 (7)	42 (7)	28 (4)	40 (5)	28 (4)	29 (6)	37 (8)	37 (8)	37 (7)	46 (11)	38 (12)	413 (88)
Puerperal Fever	3 (—)	2 (—)	10 (—)	8 (—)	10 (—)	11 (—)	12 (2)	3 (—)	8 (—)	4 (—)	4 (—)	3 (—)	78 (2)
Polio myelitis	2 (—)	3 (1)	8 (—)	6 (4)	8 (—)	2 (—)	1 (1)	5 (1)	2 (3)	3 (3)	3 (—)	2 (1)	45 (14)
Cerebro Spinal Fever	1 (—)	—	2 (—)	—	—	—	—	1 (—)	—	—	1 (1)	—	5 (2)
Tuberculosis	247 (36)	239 (31)	287 (48)	249 (38)	243 (42)	326 (59)	312 (59)	254 (45)	218 (38)	214 (59)	204 (40)	197 (42)	2,990 (537)
Paratyphoid Fever	—	1	—	1	—	—	—	—	—	—	—	—	2
Leprosy	—	—	—	—	—	—	—	—	—	—	—	—	—
	6 (1)	4 (5)	3 (7)	10 (2)	4 (4)	8 (7)	17 (5)	10 (2)	11 (4)	7 (1)	4 (2)	11 (3)	95 (43)
Typhus Fever	3 (1)	2 (1)	4 (—)	3 (1)	1 (—)	—	1 (—)	1 (—)	—	1 (1)	—	—	16* (5)†
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	4 (—)	1 (—)	—	—	4 (—)	1 (1)	1 (—)	—	1 (—)	—	4 (—)	—	16 (1)
Total	348 (65)	319 (58)	406 (69)	365 (63)	342 (61)	424 (81)	410 (87)	353 (61)	312 (70)	292 (81)	294 (61)	284 (73)	4,148 (830)

* 12 mite borne and 4 flea borne.

† 3 mite borne and 2 flea borne.

TABLE 4
POLIOMYELITIS
CONFIRMED CASES NOTIFIED IN 1952 BY RACE, SEX AND AGE GROUPS
Table includes imported cases as well as cases in City Resident.

Age		EUROPEANS			EURASIANS			CHINESE			MALAYS			INDIANS			OTHERS			TOTAL		
		M. F. T.			M. F. T.			M. F. T.			M. F. T.			M. F. T.			M. F. T.			M. F. T.		
		M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
0—5 years	..	3	1	4	1	—	1	16	6	22	1	1	2	4	1	5	—	—	—	25	9	34
5—10 "	..	1	—	1	—	1	1	5	3	8	1	—	1	—	2	2	—	—	—	7	6	13
10—15 "	..	—	—	—	—	—	—	3	1	4	—	—	—	—	—	—	—	—	3	1	4	
15—20 "	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20—25 "	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
25—35 "	..	1	3	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	3	4	
35—45 "	..	2	2	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	4	
45—55 "	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	..	7	6	13	1	1	2	24	10	34	2	1	3	4	3	7	—	—	38	21	59	

Fourteen of the fifty-nine confirmed cases of Poliomyelitis notified within the city area were non-residents.

TABLE 5

POLIOMYELITIS CASES NOTIFIED AND CONFIRMED IN 1952

UNDER 5 YEARS OF AGE BY RACE, SEX AND AGE GROUPS RESIDENT AND NON-RESIDENT

Race	0—1 year		1—2 years		2—3 years		3—4 years		4—5 years		Total under 5 years	Total over 5 years
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
Europeans ..	—	—	—	—	2	—	—	1	1	—	4	9
Eurasians ..	—	—	1	—	—	—	—	—	—	—	1	1
Chinese ..	4	3	5	1	6	—	1	2	—	1	23	10
Malays ..	—	—	1	—	—	1	—	—	—	—	2	2
Indians ..	3	—	—	1	1	—	—	1	—	—	6	1
Others ..	—	—	—	—	—	—	—	—	—	—	—	—
Total ..	7	3	7	2	9	1	1	4	1	1	36	23

TABLE 6

PERCENTAGE OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS CASES
TREATED AT MIDDLETON HOSPITAL 1951 AND 1952

	1951	1952
Total cases treated at Middleton Hospital ..	50	78
Paralytic cases	48	73
Non-Paralytic cases	2	5
Paralytic cases	96%	93.5%

TABLE 7

NOTIFICATIONS OF TUBERCULOSIS (ALL TYPES) BY SEX AND AGE
GROUPS 1952. (IN CITY RESIDENTS ONLY)

(Cases in Service Personnel and Families not included)

Age Groups			0—5	5—10	10—15	15—20	20—45	Over 45	Age not stated	Total
Males	..	..	90	26	17	77	1,219	773	10	2,212
Females	..	..	75	20	5	35	436	205	2	778
Total	..		165	46	22	112	1,655	978	12	2,990

TABLE 8

INSTITUTIONS, ETC. FROM WHERE TUBERCULOSIS NOTIFICATIONS WERE RECEIVED

2,990 cases of Tuberculosis (all types) in City residents and 537 in non-residents that is 3,527 in all were notified during the year. 69 of these were not ordinarily resident in the Colony. Cases in service personnel and their families are not included in these figures.

Notified by	S.A.T.A.	T.T.S. Clinic	General Hospital	Total S.A.T.A. and Hospitals	Private Practi- tioners	Total
Number of cases notified	1,203	594	560	2,357	1,170	3,527

TABLE 1

GENERAL MEASURES TAKEN TO PREVENT IMPORTATION
AND SPREAD OF INFECTIOUS DISEASES

PASSENGERS UNDER SURVEILLANCE DURING THE YEAR 1952

Number of Passenger Undertakings received	..	347
Number of Persons under surveillance	..	490
Number of Persons seen	..	466
Number of Persons not seen and could not be traced	..	24

TABLE 2

HOUSES QUARANTINED, DISINFECTED, AND INFECTIOUS CASES
REMOVED TO INFECTIOUS HOSPITAL, TRAFALGAR HOSPITAL

Houses quarantined	..	..	..	Nil
Houses Disinfected	..	..	..	1,174
Infectious cases removed to Infectious Hospital	..			719
Leper cases removed Trafalgar Hospital	..			109

TABLE 3

VACCINATIONS BY CITY VACCINATORS, MEDICALMEN, PRIVATE
AND GOVERNMENT VACCINATORS
1952

(Excluding Special Revaccination Campaign)

	Successful	Modified	Failed	Not Seen	Total
City Vaccinators ..	17,097	237	357	999	18,690
Medicalmen ..	12,247	17	45	—	12,309
Private and Government Vaccinators ..	25	—	—	—	25
Total ..	29,369	254	402	999	31,024

TABLE 4

VACCINATION BY RACES 1952

Race	Under 6 months	6—12 months	1—5 years	Over 5 years	Total
Chinese ..	14,863	8,019	1,395	371	24,648
Malays ..	2,450	1,001	94	18	3,563
Indians ..	1,500	563	48	6	2,117
Eurasians ..	159	64	19	14	256
Europeans ..	29	9	1	4	43
Others ..	306	82	6	3	397
	19,307	9,738	1,563	416	31,024
Special Vaccination Campaign 20th August to 31st December (all races combined) ..	..	..	41,824	241,846	283,670
Total Vaccination ..	19,307	9,738	43,387	242,262	314,694

TABLE 1

BIRTHS AND STILL-BIRTHS

The following is the number of births for each month of the year, the 1951 figures being also shown.

Month			1951	1952	Month			1951	1952
January	..	..	2,912	2,804	July	..	..	2,917	3,225
February	..	..	2,559	2,774	August	..	..	2,975	3,054
March	..	..	2,573	2,763	September	..	..	2,767	3,276
April	..	..	2,883	2,951	October	..	..	3,199	3,377
May	..	..	2,980	2,876	November	..	..	3,188	3,185
June	..	..	2,970	2,993	December	..	..	2,853	3,251
Total			16,877	17,161	Total			17,899	19,368

TABLE 2

The Births Registered by Races were:—

Race			1951			1952		
			Males	Females	Total	Males	Females	Total
Europeans	..	..	116	114	230	125	127	252
Eurasians	..	..	185	156	341	167	162	329
Chinese	..	..	14,208	13,478	27,686	14,780	14,073	28,853
Malays	..	..	1,819	1,723	3,542	1,978	1,864	3,842
Indians	..	..	1,406	1,413	2,819	1,616	1,481	3,097
Others	..	..	91	67	158	73	83	156
Total			17,825	16,951	34,776	18,739	17,790	36,529

TABLE 3

The birth rate for each race in 1952 and the corresponding rates for 1951 are shown in the table which follows:—

Race				1951	1952
Europeans	..	..	..	25.87	25.57
Eurasians	..	..	..	38.64	36.02
Chinese	..	..	..	47.08	47.78
Malays	..	..	..	44.16	46.46
Indians	..	..	..	52.39	54.24
Others	..	..	..	19.29	18.06
All Races Combined	..	..	..	46.50	47.36

TABLE 4

The table which follows shows the number of live-births by race and sex that occurred at the Government Maternity Hospital in 1952 and also the percentage of the total registered births of each race born at this hospital:—

Race	1952			Percentage of total births registered by race born at the Government Hospital	
	Males	Females	Both Sexes	1952	1951
Chinese	6,393	5,999	12,392	42.95	39.95
Indians	899	828	1,727	55.76	51.88
Malays	103	111	214	5.57	8.24
Europeans	112	109	221	87.70	88.26
Eurasians	81	79	160	48.63	48.97
Others	8	12	20	12.82	12.66
Total All Races ..	7,596	7,138	14,734	40.34	37.54

TABLE 5

The percentage of the total births registered by races in the census year 1911, 1921, 1931, 1947 and in 1948—1952 is shown in the table which follows:—

Year	Total Births	Chinese	Malays	Indians	Other Races	% of Total Births			
						Chinese	Malays	Indians	Other Races
1911 ..	5,560	3,750	1,051	406	353	67.4	18.8	7.3	7.52
1921 ..	10,237	7,789	1,270	640	538	76.0	12.4	6.2	5.26
1931 ..	16,488	13,229	1,758	917	584	80.23	10.66	5.56	3.54
1936 ..	20,878	17,093	1,842	1,314	629	81.87	8.82	6.29	3.01
1947 ..	30,548	24,247	3,233	2,323	745	79.3	10.5	7.6	2.44
1948 ..	32,074	25,996	3,004	2,299	775	81.1	9.4	7.2	2.4
1949 ..	33,101	26,602	3,294	2,461	744	80.4	10.0	7.4	2.2
1950 ..	33,424	26,700	3,408	2,635	681	79.88	10.20	7.88	2.04
1951 ..	34,776	27,686	3,542	2,819	729	79.61	10.19	8.11	2.10
1952 ..	36,529	28,853	3,842	3,097	737	78.99	10.52	8.48	2.02

TABLE 6

The Still-Births registered in 1952 and 1951 are shown in the table which follows:—

Race	1952			1951		
	Males	Females	Total	Males	Females	Total
Europeans .. ..	..	..	..	1	2	3
Eurasians	4	5	9	1	—	1
Chinese	281	222	503	235	217	452
Malays	54	38	92	60	39	99
Indians	49	53	102	42	37	79
Others	4	4	8	3	1	4
Total ..	392	322	714	342	296	638

TABLE 1

DEATHS

The following return shows the number of deaths and the death rate for each month of the year.

Month			No. of Deaths	Death Rate	Month			No. of Deaths	Death Rate
January	..	..	719	10.98	July	..	..	765	11.68
February	..	..	748	12.21	August	..	..	788	12.04
March	..	..	848	12.95	September	..	..	779	12.30
April	..	..	833	13.15	October	..	..	816	12.46
May	..	..	790	12.07	November	..	..	687	10.84
June	..	..	871	13.15	December	..	..	728	11.12

TABLE 2

The chief causes of death in 1951 and 1952 and the rate per 1,000 living are set out in the table which follows:—

Disease				1951		1952	
				Cases	Rate per mille	Cases	Rate per mille
Bronchitis and Pneumonia	..	..	..	1,639	2.191	1,637	2.122
Tuberculosis	..	..	..	1,284	1.717	1,140	1.478
Diarrhoea and Enteritis	..	..	..	1,071	1.432	1,132	1.468
Diseases of early infancy	..	..	..	716	.957	759	.984
Infantile Convulsions (up to 5 years)	..	..	..	467	.624	318	.412
Violence	..	..	..	482	.644	469	.608
Heart Disease	..	..	..	497	.664	498	.646
Old Age	..	..	..	368	.492	305	.395
Cancer	..	..	..	371	.496	420	.544
Nephritis	..	..	..	272	.364	310	.402
Beri Beri	..	..	..	255	.349	271	.351
Diphtheria	..	..	..	102	.136	86	.111
Malaria	..	..	..	54	.072	38	.049
Dysenteries	..	..	..	45	.060	42	.054
Typhoid	..	..	..	19	.025	12	.016

TABLE 3
MORTALITY ACCORDING TO RACES AND AGES, 1952

	Europeans		Eurasians		Chinese		Malays		Indians		Others		Total Males	Total Females	Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Under 28 days	2	4	2	5	511	511	89	70	66	46	4	7	674	643	1,317
28 days to 3 months	..	..	1	1	193	191	75	34	23	13	1	2	293	241	534
3-12 months	2	1	2	4	336	305	111	85	26	27	1	1	478	423	901
1-2 years	2	..	1	..	201	182	45	43	16	16	..	3	265	244	509
2-3 years	1	..	..	..	132	107	34	15	9	9	..	1	176	132	308
3-4 years	1	..	..	..	88	74	11	15	3	7	..	..	103	96	199
4-5 years	..	..	..	..	41	59	7	3	2	5	1	..	51	67	118
5-10 years	..	..	1	..	102	110	13	9	4	8	2	1	122	128	250
10-15 years	..	1	..	..	72	35	10	4	4	2	..	..	86	42	128
15-20 years	1	..	2	1	71	48	7	18	2	1	..	..	83	68	151
20-25 years	7	..	1	2	70	61	12	20	6	10	..	2	96	95	191
25-35 years	5	3	3	1	198	142	29	29	63	20	..	..	298	195	493
35-45 years	1	..	2	3	395	198	45	37	74	15	..	1	517	254	771
45-55 years	11	2	7	1	664	282	62	38	110	15	2	..	856	338	1,194
55 Over	17	4	13	18	1,149	827	98	73	73	21	5	8	1,355	951	2,306
Unknown	..	..	..	..	..	..	..	..	..	..	2	..	2	..	2
Total	50	15	35	36	4,223	3,132	648	493	481	215	18	26	5,455	3,917	9,372
Grand Total	65	71	7,355	1,141	696	44	9,372								

TABLE 4

INFANTILE MORTALITY BY RACES 1938—1951
(Occupation Period 1942—1945 omitted)

Year			Europeans	Eurasians	Chinese	Malays	Indians	Others	All Races
1938	..	..	16.3	58.5	178.9	235.6	128.9	98.9	177.4
1939	..	..	39.4	79.6	150.3	188.4	91.6	96.9	147.7
1940	..	..	31.9	77.9	162.6	209.9	111.8	104.2	160.7
1941	..	..	21.6	48.6	152.5	211.6	102.8	143.6	152.4
1942-1945	..	..	(Japanese Occupation Period)						
1946	..	..	28.2	65.5	91.6	140.4	94.9	126.6	96.39
1947	..	..	52.0	84.3	93.4	144.1	81.8	109.9	97.6
1948	..	..	28.0	45.3	83.9	163.1	80.0	67.0	90.10
1949	..	..	19.3	38.7	74.3	122.7	82.1	109.5	79.18
1950	..	..	18.9	53.0	87.4	145.8	71.3	65.9	91.22
1951	..	..	21.7	41.1	73.7	130.4	68.5	158.2	78.79
1952	..	..	35.7	45.6	71.0	120.8	64.9	102.6	75.34

TABLE 5

The main causes of death in infants and the rate per 1,000 live-births for each disease in 1952 and 1951 are set in the table which follows:—

	1952		1951	
	Cases	Rate per mille	Cases	Rate per mille
Convulsions	220	6.023	338	9.719
Bronchitis and Pneumonia ..	656	17.958	620	17.828
Diseases of early infancy	759	20.778	715	20.560
Diarrhœa and Enteritis	749	20.504	699	20.100
Tetanus	18	.493	19	.546
Beri-Beri	20	.548	26	.748
Congenital Syphilis	27	.739	10	.288
Total ..	2,449	67.043	2,427	69.790

TABLE 6
1952 INFANTILE MORTALITY ACCORDING TO AGE, SEX AND AGE GROUPS

Races	Age Groups	0-1 Day	1-7 Days	1-4 Weeks	0-4 Weeks	4 Weeks 3 Months	3-6 Months	6-9 Months	9-12 Months	0-12 Months
Europeans	M.	1	1	..	2	..	1	..	1	4
	F.	1	2	1	4	..	..	1	..	5
Eurasians	M.	..	1	1	2	1	..	2	..	5
	F.	1	2	2	5	1	3	1	..	10
Chinese	M.	119	155	237	511	193	132	115	89	1,040
	F.	92	126	293	511	191	133	91	81	1,007
Malays	M.	25	34	30	89	75	63	29	19	275
	F.	22	16	32	70	34	37	32	16	189
Indians	M.	19	24	23	66	23	9	9	8	115
	F.	8	12	26	46	13	16	6	5	86
Others	M.	2	..	2	4	1	1	..	..	6
	F.	6	1	..	7	2	..	1	..	10
Total Races	M.	166	215	293	674	293	206	155	117	1,445
	F.	130	159	354	643	241	189	132	102	1,307
Combined Total	..	296	374	647	1,317	534	395	287	219	2,752

TABLE 7
NEO-NATAL RATES BY RACE AND SEX (1950—1952)

	1952			1951			1950		
	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes
Europeans ..	16.00	31.50	23.81	17.24	17.54	17.39	..	10.64	4.72
Eurasians ..	17.98	30.86	21.28	32.43	12.82	23.46	12.27	7.19	9.93
Chinese ..	34.57	36.31	35.42	31.60	28.05	29.87	30.17	36.99	33.45
Malays ..	44.99	37.55	41.38	52.23	35.40	44.04	44.98	40.62	42.84
Indians ..	40.84	31.06	36.16	37.70	26.89	32.28	35.55	25.89	30.74
Others ..	54.79	84.34	70.51	120.88	59.70	94.94	20.62	42.86	29.94
Total ..	36.02	36.09	36.05	34.56	28.61	31.66	31.64	36.08	33.78

TABLE 8

The chief causes of the neo-natal deaths in infants in 1952 and 1951 are shown in the table which follows:—

	1952		1951	
	No. of cases	% Total Neo-natal deaths	No. of cases	% Total Neo-natal deaths
1. Premature Birth	390	29.61	381	34.60
2. Congenital Debility	78	5.92	62	5.63
3. Infantile Convulsions	58	4.40	76	6.90
4. Atelectasis	78	5.92	69	6.27
5. Diarrhœa and Enteritis	248	18.83	133	12.08
6. Tetanus	16	1.22	18	1.63
7. Bronchitis and Pneumonia	178	13.52	133	12.08
8. Congenital Malformations	49	3.72	48	4.36
9. Icterus Neonatorum	81	6.15	58	5.27
10. Injury at Birth	75	5.70	73	6.63
11. Beri Beri	3	.23	4	0.36
12. Undefined or unstated causes	7	.53	9	0.82
13. Congenital Syphilis	14	1.06	4	0.36
14. Diseases of Umbilicus	8	.61	1	0.09
15. Septicæmia and Pyæmia .. ..	..	..	..	..
16. Other Diseases included under 161 (c)	8	.61	6	.54
17. Other Diseases	26	1.97	26	2.36
Total ..	1,317		1,101	

TABLE 9

CERTIFICATION OF DEATHS 1952

By whom certified	Euro-peans	Eura-sians	Chinese	Malays	Indians	Others	Total
Medical Practitioners ..	35	59	5,006	400	409	24	5,933
City Council Inspecting Officers	1	4	1,585	682	145	10	2,427
Coroner	29	8	764	59	142	10	1,012
Total ..	65	71	7,355	1,141	696	44	9,372

TABLE 10

In the table which follows are shown the percentage number of deaths the causes of which were certified by Medical Practitioners, Inspecting Registrars and the Coroner in the pre-war years 1939—1941 and the post-war years 1946—1952.

	1939	1940	1941	1946	1947	1948	1949	1950	1951	1952
Medical Practitioners	69.0	68.7	68.9	57.16	58.48	60.22	59.81	58.89	59.82	63.30
Registrars ..	25.0	25.2	25.0	33.82	33.14	31.92	31.85	31.55	30.10	25.90
Coroner	6.0	6.1	6.1	9.02	8.39	7.86	8.34	9.56	10.08	10.80

TABLE 1

FOOD AND MARKETS

	1951	1952
	Weight in katties	Weight in katties
A. Quantity of fresh fish landed and auctioned at the markets	9,339,759½	8,716,150½
B. Quantities of unsound foodstuffs at markets which were seized, surrendered and destroyed during the year:—		
Fish, Meat, Vegetables, Fruits and Miscellaneous	220,656¾	217,426
Eggs	19,768	18,600
Head of Poultry	5,435	3,865
C. Samples taken for chemical analysis during the year =	556	

Decayed and unsound foodstuffs at Godown in the Harbour Board and elsewhere and shops in the City which were seized or surrendered and destroyed during the year included 30,600 tins, 778 bottles, 2,048 cases, 34 boxes, 318 packets, 887 lb. of assorted provisions, 25 crates of potatoes and 255 katties of fish, vegetables and fruits.

TABLE 2

D. Licences Issued and Fees Collected

Year			LICENCES ISSUED			Total
			Total	Food By-laws	Offensive Trades	
						\$ c.
1951	..	..	2,102	1,709	..	76,260.00
				..	393	12,266.50
						88,526.50
1952	..	..	2,223	1,821	..	80,340.00
				..	402	12,775.18
						93,115.18

TABLE 3

THE NUMBER OF ANIMALS SLAUGHTERED AT THE ABATTOIRS IN 1951 AND 1952

					1952	1951
Pigs					320,076	238,451
Sheep					57,743	37,397
Goats					2,282	3,159
Oxen					4,248	4,246
Buffaloes					2,314	2,140
Horses					4	8
Deer					1	1
Total ..					386,668	285,402

NUMBER OF PIGS FROM VARIOUS SOURCES SLAUGHTERED AT ABATTOIR AND APPROXIMATE WEIGHT
OF PORK PRODUCED IN 1951 AND 1952

	1952		1951	
	No. of pigs Slaughtered	Approximate weight katties	No. of pigs Slaughtered	Approximate weight katties
<i>Local</i> pigs—Average carcase weight, 55 katties	305,300	16,791,500	183,662	10,101,410
<i>Federation</i> pigs—Average carcase weight, 60 katties	6,576	394,560	28,675	1,720,500
<i>Bali</i> pigs—Average carcase weight, 90 katties	8,200	738,000	26,111	2,349,990
<i>Saigon</i> pigs—Average carcase weight, 80 katties .. .. .	..	..	3	240
Total ..	320,076	17,924,060	238,451	14,172,140

CARCASSES TOTALLY CONDEMNED AT THE ABATTOIR

1952

<i>Swine</i>	<i>Sheep</i>	<i>Oxen</i>	<i>Buffaloes</i>	<i>Goats</i>	<i>Total Condemned</i>
25	85	28	12	6	156

REVENUE

The total revenue (excluding rent received for use of chilling room) from the Abattoirs in 1952 was \$759,019.10. This is the highest revenue ever recorded for the Abattoirs, the previous highest being \$673,757.95 in 1949.

TABLE 4

BURIAL GROUNDS

1952	Deaths regis- tered within the City Area	Burials and Cremations made in City Cemete- ries and licensed burial grounds in the City Area	Exhumations
Europeans	65	65 (2)	..
Eurasians	71	88 (1)	..
Chinese	7,355	4,599 (4)	17,277
Malays	1,141	1,229	..
Indians	696	838 (193)	34
Others	44	55 (1)	..
Total ..	9,372	6,874 (201)	17,311

Figures in brackets denote number cremated.

ANTI-MOSQUITO DEPARTMENT

INCIDENCE OF MALARIA

THE PRACTICE of basing the incidence of malaria within the City on the returns from hospitals and dispensaries has been continued and on the basis of these returns the figures suggest a marked decrease in malaria in Singapore. Seventy-four cases of malaria were reported, of which forty-seven gave addresses within the City. All these cases, with the exception of six who gave wrong addresses were fully investigated, and all were found to be either imported cases or relapses. This vigilance will be continued as malaria is known to be on the increase in territories close to the City.

TRAPPING OF ADULT MOSQUITOES

Three mosquito traps were set up in various parts of the City for the collection of adult mosquitoes for identification, and this provided a valuable check on our species sanitation of malaria control. For details see Appendix *A*.

LARVÆ SEARCHING

A continual search for mosquito larvæ was carried out. 7,239 collections of larvæ were brought to the department for identification by the oiling checkers.

At Appendix *B* is an analysis of 1,000 consecutive larval collections during 1952, showing the common types of breeding places within the City.

At Appendix *C* is shown the total number of collections in which vector species were found, with their common breeding places.

PERMANENT ANTI-MALARIAL WORKS

The areas under permanent control were extended by 4,796 yards of concrete anti-malarial type of drain and 298 yards of subsoil pipes. In addition to constructing new anti-malaria drains in concrete, several existing anti-malaria earth drains were consolidated in concrete. To assist housing development within the City, several of our anti-malaria drains running across lots were diverted along lot boundaries or along road reserves to suit approved layouts. For details of permanent A.M. Works please see Appendix *D*.

Minor repairs to existing permanent A.M. works were carried out as and when required, and details of these are given in Appendix *E*.

PRAWN PONDS IN KALLANG BASIN

This dangerous area continues to demand a good deal of our attention, in view of the favourable conditions existing here for the breeding of *A. sundaicus*. Weekly inspections were carried out to ensure that sluice gates were opened and algal growths on ponds were removed. Numerous pits formed as a result of unauthorized persons digging for scrap metal on recent fillings at Kolam Ayer Lane added considerably to the difficulties in controlling this area. This matter is receiving attention. Fifty-two inspections were made during the year and *A. sundaicus* larvæ were found on three occasions (11th September, 14th and 27th October, 1952). Prompt and extensive anti-larval measures were undertaken. Sluice gates were found to be closed twice during ebb-tide and the owners were cautioned on both occasions to have the gates open at least once weekly.

KAMPONG SANITATION

The experiment of kampong sanitation was continued during the year, and results continue to show that it is an uneconomical proposition to sanitize unplanned slums because of the high cost of maintaining the completed drainage work. Daily cleansing of drains is necessary for which a permanent labour force is required. Drains in kampongs are generally used as open sewers and also for disposal of refuse so that constant vigilance is necessary if the channels are to be kept free from obstructions and functioning properly. It is not proposed to extend this kampong sanitation work and it is the intention to retain a minimum labour force for maintenance of drains already constructed.

682 yards of concrete channel drains were laid. For details of this work please see Appendix *F*.

MAINTENANCE

(i) Maintenance work was carried out by ten gangs and four machine units. The intention has been to maintain all anti-malaria areas once in forty-five days, but this has rarely been possible because of the increased work in clearing A.M. drains that are now sullage drains. The question of transferring certain A.M. drains now serving mainly as outlets for sullage, to the City Cleansing Department for maintenance is under consideration.

Pig-rearers living on the floor of some ravines have created another problem. Slopes of these ravines have been damaged by pigs, with consequent deturfing of slopes and silting of drains.

(ii) New seepages were trapped underground by subsoil pipes and extensions and repairs to existing subsoil pipes were carried out. In addition 1,906 subsoil pipes were taken up, cleared and relaid.

LARVICIAL WORKS

(i) A.M. Mixture—83,779 gallons of this containing 1 per cent D.D.T. were expended compared with 71,485 gallons last year. The increased amount of A.M. Mixture used was due to increased building activities and excavations for scrap metal.

(ii) Ditrene Dip—5,507 gallons of 3 per cent Ditrene Dip have been used mainly to control mosquito breeding in places where an oily larvicide would interfere with the proper setting of cement.

(iii) Malariol H.S.—120 $\frac{3}{4}$ gallons of this was used to control mosquito breeding in fish and vegetable ponds in Sungei Whampoe and Kallang Basin areas.

(iv) Gammexane—952 pounds of this was used mainly in the temporary control of nuisance mosquito breeding in septic tanks, the increasing number of which has added to the number of mosquito complaints received.

(v) Benzine with 10 per cent D.D.T.—488 gallons were used to control mosquito breeding along the margins of reservoirs.

Total cost of larvicides (including labour) \$146,394.81 and of this sum \$13,681.89 was recovered from owners and contractors.

FILLING IN OF LOW LYING AREAS

Reclamation of tidal swamps by 'filling' at Kolam Ayer Lane was carried out by the City Cleansing Department at the request of the Health Department and filling of extensive swamp in the Bendemeer area was started late in the year, under the same arrangements.

PATROL GANGS

Five patrol gangs in charge of the areas around the General Hospital, Tan Tock Seng Hospital, Kallang Basin, Tanjong Rhu, Siglap and Geylang Serai continued to work in these places mainly to control the breeding of *A. sundaicus*. These gangs cleared and regraded 595,947 yards of earth drains and cleaned 165,681 yards of concrete drains. They also collected and disposed of an average of 471 large baskets of tins and other waterbearing receptacles every month.

NOTICES

210 Notices under the Destruction of Mosquitoes Ordinance were served during the year as compared with 247 last year.

TRAINING

The following Probationary Sanitary Inspectors began a three-months course in anti-malarial measures and in the bionomics and taxonomics of Malayan mosquitoes during the year:—Tock Peng Poey, Tan Chye Kee and Yeo Lye Watt.

One candidate was examined and passed. Two are still undergoing training. During the year films dealing with the various aspects of malaria control were shown to the staff and Probationary Sanitary Inspectors with the assistance of the U.S.I.S.

PLANS

457 plans were referred to the Department by the Planning Officer, Singapore Improvement Trust, for examination and comment regarding drainage.

STAFF

In June 1952 Dr. V. K. Thomas was transferred to the Lorong Lalat Dispensary. In October 1952 Dr. R. S. Corbitt was appointed Assistant Health Officer and was placed in charge of the Anti-Mosquito Department. Mr. Perry's post of Divisional Sanitary Inspector was downgraded when he retired on 20th December, 1952, and Mr. K. Muthukumar was appointed as Superintendent, Anti-Mosquito Department, in a new appointment.

A close liaison was maintained with the Rural Health authorities and Army Departments concerned with the control of mosquito breeding.

R. S. CORBITT,
*Assistant Health Officer,
for Deputy Health Officer.*

APPENDIX A

Mosquito traps were set up in the following areas with the results indicated below:—

Locality	No. of Nights	<i>A. macu- latus</i>	<i>A. sun- daicus</i>	Other <i>Anopheles</i>	Others	Total
Goodman Road ..	302	Nil	1	126	7,147	7,274
Kolam Ayer Lane ..	300	Nil	13	389	13,766	14,168
St. Michaels Road ..	182	Nil	..	1,237	5,791	7,028
Bushy Park ..	29	Nil	..	2	328	330
Woodleigh Park ..	86	Nil	..	4	2,367	2,371
Total ..	..	..	14	1,758	29,399	31,171

1,768 Anopheline Female mosquitoes were trapped; of which 1,152 were dissected and none was found infected. In addition 29,399 adult mosquitoes were identified.

APPENDIX B

1,000 CONSECUTIVE COLLECTIONS FROM COMMON BREEDING PLACES

Stagnant pools ..	..	..	..	169
Grassy pools ..	..	..	..	43
Puddles ..	..	..	..	5
Blocked tidal creek ..	..	..	..	1
Cattle Hoof Marks ..	..	..	..	2
Seepages ..	..	..	..	14
Hill cutting ..	..	..	..	1
Stagnant water on concrete floor ..	..	..	..	3
Trenches ..	..	..	..	2
Concrete pools ..	..	..	..	6
Concrete pit ..	..	..	..	8
Swimming pool ..	..	..	..	1
Inspection chambers ..	..	..	..	3
Septic tanks ..	..	..	..	28
Cess pit ..	..	..	..	1
Concrete ponds ..	..	..	..	3
Fish ponds ..	..	..	..	3
Vegetable ponds ..	..	..	..	44
Reservoir edges ..	..	..	..	15
Concrete drains ..	..	..	..	65
Sullage concrete drains ..	..	..	..	39
Roadside concrete drains ..	..	..	..	110
Earth drains ..	..	..	..	68
Sullage earth drains ..	..	..	..	1
Roadside earth drains ..	..	..	..	5
Sewage trenches ..	..	..	..	3

Carried forward .. 643

APPENDIX B—continued

			<i>Brought forward</i>	..	643
New building excavations	..	..	..	..	41
Lorry Tracks	..	..	..	..	13
Earth wells	..	..	..	..	40
Concrete wells	..	..	..	..	8
Brick wells	..	..	..	..	2
Storage tanks	..	..	..	..	6
Concrete tanks	..	..	..	..	11
Disused drums	..	..	..	..	42
Iron Boxes	..	..	..	..	4
Disused battery box	..	..	..	..	1
Tins	..	..	..	..	114
Disused flower pot	..	..	..	..	1
Shanghai Jars	..	..	..	..	24
Coconut shells	..	..	..	..	2
Broken bottles	..	..	..	..	3
Banana tree hole	..	..	..	..	1
Meatsafe cups	..	..	..	..	3
Disused tyres	..	..	..	..	7
Disused car parts in salvage dumps	..	..	..	..	4
Boats	..	..	..	..	30
Total					1,000

APPENDIX C

7,239 collections of mosquito larvæ were brought to the laboratory for identification. Twenty nine of these contained larvæ of *Anopheline sundaicus* and ten contained larvæ of *Anopheline maculatus*. The other 7,200 collections did not contain larvæ of malaria vectors.

The types of breeding places in which the larvæ of malaria vectors were found were as follows:—

<i>A. sundaicus</i>				<i>A. maculatus</i>			
Fish ponds	..	..	2	Seepage pools	..	..	1
Vegetable ponds	..	..	7	Reservoir creek	..	..	1
Duck ponds	..	..	1	Roadside concrete drain	..	..	1
Concrete edged pond	..	..	1	Earth wells	..	..	2
Swimming pool	..	..	1	Lorry track	..	..	1
Tidal pools	..	..	3	Seepages (G.P.W. Works)	..	..	1
Grassy pools	..	..	3	Borders of Estate Reservoir (G.P.W. Works)	..	..	2
Excavation for scrap metal	..	..	1	Puddles near Sand Stream (Pon- tian W.W.)	..	..	1
Edge of lake with algæ	..	..	1				—
Concrete tanks	..	..	3				10
Concrete (cable) Cylinder	..	..	1				—
Lorry tracks (sea front)	..	..	1				
Boats	..	..	4				

APPENDIX D

NEW CONSTRUCTION WORKS CARRIED OUT IN 1952

Anti-Malarial Area	MATERIALS USED											Misc.	Labour Cost	Material Cost	Remarks
	Inverts					Slabs		Subsoil Pipes							
	21"	18"	15"	12"	9"	18"	15"	8"	6"	4"					
25 Morse Ravine ..	112	10	..	..	..	215	50	600	730	..	..	\$ 4,381 56	\$ 2,102 49	Extension of S.H.B. concrete drain to toe of hill and trapping of seepages. Work completed.
89 Silat Road ..	..	..	..	..	..	..	..	..	400	..	..	291 95	229 50	Outcropping seepages along toe of embankment near S.I.T. houses B12-B20 were trapped. Work completed and cost recovered from Singapore Improvement Trust.
109 Mount Pleasant ..	35 (new) 19 (old)	..	..	..	..	122 (new) 24 (old)	..	879	..	..	106 (12" old slabs)	13,760 14	1,900 57	Commenced cutting of earth ditches from the "Y" junction of the Anti-Malarial drains (MacRitchie/Mt. Pleasant) to the Thomson Road main streams to suit layout. Re- placement of these new earth ditches with concrete inverts and slabs is continuing. Storm and sillage drains connected to the main drain and seepages trapped. Work in progress.
111 Thomson Road ..	..	..	..	..	..	..	..	..	..	..	..	3,479 05	..	General clearing of undergrowth on ravine floor on either side of Thomson Road main earth drain was carried out. Work in progress.
130 Mount Washington Ravine (Glass Factory)	30	..	..	..	..	..	..	..	..	..	..	3,146 23	1,492 90	Works in connection with the realignment of the concrete channel due to the filling of the low area behind the Glass Factory were carried out. Work in progress.
131 Joo Chiat Terrace ..	..	..	2	550 (new) 13 (old)	225	1,020	..	..	60	150	..	4,712 17	2,888 87	Replacement of the existing earth ditch by concrete inverts and slabs was carried out. Levelling, sloping and turfling was also done. Work completed.
148 Serangoon Road Ravine	..	..	..	16	..	..	..	..	135	..	..	371 49	90 81	Replacement of earth ditches receiving sillage and storm water in the ravine floor with concrete inverts. One pond was filled and outcropping seepages trapped. General levelling, sloping and turfling was carried out. Work completed.

APPENDIX D—continued

NEW CONSTRUCTION WORKS CARRIED OUT IN 1952—continued

Anti-Malarial Area	MATERIALS USED											Misc.	Labour Cost	Material Cost	Remarks
	Inverts						Slabs		Subsoil Pipes						
	21"	18"	15"	12"	9"	18"	15"	8"	6"	4"					
150 East Lynne No. II	..	74	48	251	..	151	..	..	854	..	..	\$ 6,889 34	\$ 1,523 64	Construction of the new line of concrete drain was continued. General levelling of ravine floor and trapping of seepages were also carried out. Two large fish ponds were drained and backfilled. Work completed.
152 Hokien Cemetary Ravine No. 2	..	54 (old)	..	..	..	135 (old)	..	..	..	..	..	659 46	116 78	Diversion of part of the main drain along lot boundary at the request of the owner was commenced and completed. Cost of work recovered from owner.
170 Braddell Road Rav. No. 5	310	200	800	280	70	1,450	750	1	2,200	..	..	17,708 14	8,299 47	Consolidation with inverts and slabs of existing main earth ditch was continued. Seepages were trapped, sullage and storm water drains were connected to main drain. Work completed.
170 Braddell Road Ravine No. 6	725	100	276	431	36	2,630	..	120	1,810	..	..	17,406 41	9,235 24	A central earth ditch was cut and consolidated with inverts and slabs. Sloping, turfing and trapping of seepages and connecting up of sullage and storm water drains were carried out. 8 trees in the line of the drain were felled. One washing place for the use of squatters was constructed. Levelling of old fish pond by the calf dozer, backfilling of 5 ponds and general levelling of the ravine floor were also carried out.
172 Sommerville Ravine	293 (new) 407 (old)	..	174 (new) 89 (old)	10	..	983 (new) 758 (old)	152 (old)	..	24	230	..	16,620 76	4,335 37	Realignment of existing concrete drain along the proposed road reserve commenced. Clearing of undergrowth and levelling off inequalities were carried out. Old line of drain backfilled for 242 feet. Sullage and storm water drain in ravine floor were also connected to main drain.	
187 Peirce Reservoir Ravine												230 75		Dangerous outcropping seepages in floor of ravine were trapped by means of subsoil pipes.	

DETAILS OF CONSTRUCTION CARRIED OUT IN AREAS ALREADY PERMANENTLY DRAINED BY EXISTING ANTI-MALARIAL WORKS

Anti-Malarial Areas	MATERIALS USED																Labour Cost	Material Cost				
	Inverts						Slabs				Sub-soil Pipes											
	21"		18"		15"		12"		9"		18"		15"		8"		6"		4"			
	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R		
2. Barker Road Ravine	15	2	36	..	..	..	25	..	..	..	30	55	..	..	..	..	..	..	..	..	\$ 131 58	\$ 265 92
4. Claymore Ravine ..	10	..	..	..	..	..	360	..	100	..	50	40	..	..	..	..	..	..	..	..	92 64	125 66
7. Gleneaird Ravine ..	102	..	..	..	..	..	55	..	..	..	155	220	..	60	160	..	..	..	..	..	196 73	732 00
9. Nassim/Dalvey Ravine	30	10	40	..	30	..	110	..	..	..	220	290	..	..	..	20	..	..	..	..	521 32	871 60
10. Fern Hill Ravine ..	10	..	42	25	70	..	..	..	4	..	40	225	..	..	..	7	..	..	..	..	642 72	682 81
14. Watten Estate Ravine	..	..	16	20	70	25	..	..	5	10	160	280	20	15	..	..	..	..	..	..	327 50	362 81
15. Woodleigh Ravine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	60	16	..	..	..	..	554 15	495 58
16. Tyersal Ponds ..	..	..	..	..	..	..	10	..	..	..	6	60	..	..	..	..	..	..	..	..	57 12	64 00
19. S.H.B. Ravine	..	..	50	10	35	5	30	5	20	..	..	20	..	30	..	..	..	..	..	..	92 34	41 36
20. Jervois Road Ravine 1	..	..	10	..	..	..	..	..	..	..	10	20	..	..	..	..	..	..	..	..	284 38	290 50
24. Leonie Hill Ravine	..	..	..	..	..	..	..	..	..	..	5	50	..	..	..	..	..	..	..	..	94 47	47 18
25. Morse Ravine ..	..	..	..	..	..	..	..	..	..	..	10	20	..	..	..	..	..	..	..	..	23 22	28 41
27. One Tree Hill	..	..	..	..	..	..	..	..	..	..	..	20	..	..	..	..	..	..	..	..	29 68	20 33
30. Orchard Road Ravine 3	..	..	70	..	..	..	..	..	..	..	50	710	20	..	..	..	..	..	..	..	203 08	281 09
32. Radin Mas Ravine	85	10	45	..	..	..	40	..	15	..	210	25	24	..	..	..	..	70	..	..	1,050 04	1,083 19
34. Shanghai Road Ravine	..	..	..	20	..	..	3	..	..	..	2	290	..	..	..	..	..	..	..	..	27 76	14 36
35. Tiong Bahru Ravine	..	30	25	22	..	..	15	..	..	..	91	290	..	..	..	..	..	..	..	..	445 72	326 70
36. Wishart Ravine ..	105	42	25	3	35	..	..	..	..	..	190	255	..	..	..	2	..	..	..	..	598 38	815 57
37. Woodneuk Ravine	..	..	..	..	..	..	..	..	..	..	60	35	..	..	..	..	..	..	..	..	121 06	187 41
39. Balestier Plain ..	..	..	25	..	..	..	..	..	..	..	35	180	..	..	..	..	..	..	..	..	187 00	135 83
40. Cluny Road Ravine	..	..	65	..	..	..	..	..	..	..	15	140	15	..	..	..	..	..	..	..	211 13	233 02
41. Gallop Road Ravine	100	..	75	..	25	..	..	..	5	..	190	335	..	..	..	10	..	..	..	..	606 38	794 36
42. Grange Road Ravine	10	10	..	..	..	..	12	20	..	..	60	55	..	..	..	..	..	19	..	..	270 75	177 30
43. Holland Park No. 1	..	..	272	..	..	..	15	..	5	..	240	..	..	..	..	11	..	..	..	..	786 87	1,179 67
44. Holland Park No. 2	..	..	115	..	..	..	40	15	..	..	110	115	..	..	5	..	..	..	..	..	273 04	494 05
47. Newton Ponds ..	..	..	..	..	..	..	10	..	..	..	700	320	..	..	..	10	..	..	..	..	72 23	153 79
48. Rochalie Ravine	250	..	..	..	..	..	..	..	..	..	15	30	..	..	..	..	..	..	..	..	1,370 01	1,769 53
49. Swettenham Road	15	..	..	..	..	..	..	..	..	..	15	30	..	..	..	..	..	..	..	..	46 41	76 01
50. Tanglin Barracks No. 1	139	6	..	..	..	..	30	..	..	..	120	274	..	..	..	..	..	..	..	..	593 41	561 50
51. Tanglin Barracks No. 2	125	..	..	..	..	..	..	..	5	..	90	445	..	..	..	5	..	10	..	..	445 28	663 92
52. Tanglin Barracks No. 3	20	..	60	..	..	..	..	..	..	..	100	170	..	..	..	4	..	..	..	..	309 37	414 26
53. Tanglin Hill No. 1	30	..	..	..	5	..	..	..	..	..	50	80	..	..	..	..	..	..	..	..	204 78	203 97
54. Tanglin Hill No. 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	60	..	..	..	..	117 10	61 00

APPENDIX E—continued

DETAILS OF CONSTRUCTION CARRIED OUT IN AREAS ALREADY PERMANENTLY
DRAINED BY EXISTING ANTI-MALARIAL WORKS—continued

Anti-Malarial Areas	MATERIALS USED																Labour Cost	Material Cost				
	Inverts						Slabs				Sub-soil Pipes											
	21"		18"		15"		12"		9"		18"		15"		8"				6"		4"	
	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R			N	R	N	R
138. Ah Hood Road Ravine	15	..	5	15	10	20	60	25	15	..	32	315	..	..	..	..	..	..	..	..	\$	c.
140. Playfair Ravine	..	..	..	..	..	..	10	..	..	..	15	110	..	..	..	..	..	..	..	..	425	11
145. Hindu Cemetary No. 2	..	..	50	15	..	..	15	..	..	..	50	185	..	..	..	..	..	..	..	..	153	06
146. Mohammedan Cemetary Ravine	..	..	30	50	..	..	..	..	..	..	5	..	..	..	..	6	..	..	..	..	138	34
148. Serangoon Road Ravine	..	..	..	..	..	..	10	..	..	..	5	70	..	..	..	..	..	..	..	..	95	42
151. Hokien Cemetary No. 1	..	..	..	..	..	..	10	..	..	..	..	190	..	..	..	..	..	..	..	..	62	08
153. St. Michaels Road	..	..	..	..	..	..	15	..	..	..	..	42	..	..	..	..	..	..	..	..	273	83
154. Thomson Road No. 4	..	..	..	..	..	..	..	..	40	..	..	15	..	..	..	..	..	..	..	..	30	48
156. Thomson Road No. 3	..	..	..	..	5	..	..	..	..	..	15	35	..	..	..	..	..	..	..	..	54	21
158. Jalan Dato'h Ravine	..	..	2	..	..	..	5	30	5	..	5	50	..	..	..	..	..	..	..	..	38	73
159. Kampong Sambau Ravine	..	..	5	50	10	..	60	..	..	..	5	20	..	..	..	..	..	..	..	..	60	70
163. Thomson Road No. 6	..	..	..	..	9	..	5	..	..	..	3	40	5	..	..	20	..	..	..	..	192	84
164. Woodsville Ravine	..	..	..	..	..	..	..	90	..	..	..	..	..	..	..	..	..	..	..	..	245	29
168. Thomson Road No. 7	..	..	2	..	..	..	..	..	..	..	1	15	..	..	..	1	..	..	..	..	27	32
170. Braddell Road Ravine	..	..	5	25	..	..	2	..	..	..	10	235	..	..	..	200	..	..	..	..	20	58
172. Sommerville Ravine	3	..	..	20	13	..	110	65	20	..	270	755	..	..	..	..	..	..	..	..	591	22
																					2,597	63

APPENDIX F

KAMPONG SANITATION

Kampong	MATERIALS USED											Labour Cost	Material Cost	Remarks	Distribution of Maintenance Gang						
	Inverts						Slabs		Subsoil Pipes							Misc.					
	21"	18"	15"	12"	9"	18"		15"		8"	6"						4"				
<i>North</i>													\$	c.							
Geylang Serai ..	180	580	..	276	57	2,355	6	20,761	70	7,227	95	New construction and maintenance. Length 2,046 ft. MK. XXIII (part)	16 } 2 }	Plus one mandorc.
Kampong Amber ..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	55	54	15	76	General maintenance. MK. XXV ..
Boundary Road ..	..	..	20	45	..	..	..	..	..	..	..	..	..	..	119	95	127	39	Drainage connections MK. XVIII (part)
Bendemeer ..	..	..	750 (ncw) 85 (old)	150 (new) 469 (old)	68 (new) 50 (old)	..	..	..	..	..	45	..	3-5' x 18" Hume Pipe	..	10,150	13	4,876	93	Regrading and reconstructing the main drain to provide a permanent outlet for the adjoining low areas when fill- ing of S.I.T. Land by C.C.D. is carried out. Work completed. Stand pipe drainage connected.
Potong Pasir ..	..	..	..	14	..	..	..	..	28	..	..	..	..	..	59	63	26	92	Standpipe drainage connection MK. XVII
<i>South</i>																				11 }	Plus one mandorc.
Kampong Silat ..	80	..	..	150	105	370	30	..	..	..	..	..	..	..	14,959	08	1,631	67	General maintenance. MK. I ..
Kampong Silat (S.I.T.)	1,005	91	General maintenance. MK. I ..	1 }	
Monut Washington	10	30	..	10	2,128	47	72	63	General maintenance. MK. I ..	2 }	
Bukit Pernei	10	..	10	1,097	87	44	93	General maintenance. MK. I ..	1 }	
Kampong Alexandra	25	3,137	59	49	98	General maintenance. MK. I ..	3 }	

CHEMICAL LABORATORY

THE TOTAL number of samples received and analysed during the year amounted to 22,049.

The samples were made up as follows:—

Water Department	...	...	...	15,080
Sewerage Department	...	...	...	2,836
Health Department	...	...	...	574
Electricity Department	...	...	...	949
Gas Department	...	...	...	125
Fire Brigade Department	...	...	...	3
Engineer's Department	...	...	...	3
Bacteriological Department	...	...	...	2
Architect's Department	...	...	...	4
Town Cleansing Department	...	...	...	3
Registrar of Vehicles	...	...	...	2
Veterinary Department	...	...	...	4
Commercial Firms	...	...	...	2,464
Total				22,049

There was a small reduction in the number of samples received during 1952 but the high average intake reached in 1950 has been maintained.

The details of samples received from City Department were as follows:—

WATER DEPARTMENT

Water Supply	...	...	12,304	Sulphate of Alumina	...	20
Water for Alum Test	...	...	394	Lime	...	82
Tebrau River Water for Arsenic Test	...	...	13	Sod. Silicate	...	1
Tebrau Raw Water for flocculation	...	...	9	Sod. Aluminate	...	2
River and Stream Water	...	...	184	Sterilising tablets	...	2
Drinking Water	...	...	39	Indicators, chemical solutions, etc.	...	311
Tap Water	...	...	1	Sand and granite dust	...	6
Well Water	...	...	1	Pipe coating and pipe	...	3
Boiler Water	...	...	310	Subsoil	...	1
Mt. Emily Pool Water	...	...	1,195	Residue	...	1
Experimental Tanks	...	...	200	Chemicals for toxicity	...	6

With the introduction of making charges for work done on behalf of Departments, the Water Department introduced economies by foregoing sampling from all points in the purification system. There was, therefore, a falling off in the number of samples submitted but this was off set by vastly increased investigational work on methods of water treatment.

Throughout 1952 fairly extensive experiments were carried out to examine the effectiveness for water purification of flocculating reagents other than Lime-Alum Sulphate; and to establish the conditions for their efficient use in purifying waters from varied sources.

This was undertaken to investigate the possibilities:—

- (a) of more effective chemical treatment in heavily loaded installations;
- (b) of greater elasticity in chemical methods and correspondingly less dependence on the availability of Alum Sulphate in any time of emergency; and
- (c) of emergency use (after purification) of Island stream waters.

Twenty-four reports were issued, covering the use of Sodium Aluminate; Alum Sulphate—Sodium Aluminate; acid (sulphuric)—activated Silica in conjunction with Lime-Alum Sulphate; alkali (Bicarbonate)—activated Silica with Alum Sulphate only and with Lime-Alum Sulphate; and Hydroxy-Ethyl Cellulose with Lime-Alum Sulphate.

The experiments were carried out on reservoir, river and stream waters.

The results indicated, notably (i) that in very many contexts the use of Sodium Aluminate afforded considerably enhanced efficiency and (ii) that activated Silica (prepared most practically by alkali conditioning of Sodium Silicate), when used as an aid in Alum Sulphate or Alum Sulphate—Sodium Aluminate precipitations, produced remarkable improvement in speed and quality of flocculation. (The beneficial effects of the Hydroxy Ethyl Cellulose were not found to be comparable in this context.)

The possible emergency use of Chlorinated Copperas for preliminary purification of polluted stream sources was also investigated and the laboratory conditions for practical use established. In the course of this investigation the somewhat surprising fact emerged that copperas (Ferrous Sulphate) itself can be used with separate prior addition of chlorine and subsequent lime to obtain very satisfactory coagulation of water from such stream sources; leaving no excessive residual iron.

The sources of supply of raw water remain unchanged *viz.* MacRitchie, Pierce, and Seletar Reservoirs in Singapore Island and Pontian and Gunong Pulai in Johore. The daily consumption has now reached 43 million gallons.

The ranges and averages of daily analysis of the various raw and treated waters are shown in Tables *A* and *B* attached. Table *C* gives monthly complete analysis of water from the clear water tanks. The satisfactory quality of the City supply is maintained.

SEWERAGE DEPARTMENT

The following samples were analysed:—

Sewage effluents, sludge and top-water	...	...	2,579	Stream Water	...	...	1
Small Installations	...	...	229	Dried Humus for Alexandra Road	...	...	1
Experimental Plants	...	...	5	Special Sample from Kim Chuan Road	...	...	4
Sea Water	...	...	1	Lead Acetate paper	...	...	3

Sewage Purification

The purification system remains unchanged. Water-borne sewage is purified either at Alexandra Road or Kim Chuan Road. The crude night-soil from unsewered areas, is collected at People's Park, Albert Street or Paya Lebar Road and from these places is pumped to special tanks at Kim Chuan Road and from there to Serangoon for final treatment. The solid matter from the water-borne sewage at Alexandra Road also received treatment in the night-soil tanks at Kim Chuan Road. The final purified effluents enter the Alexandra Road stream from Alexandra Road Works and the Serangoon River from the Kim Chuan Road Plant.

The average qualities and ranges of the final purified effluents are shown in the following tables (results expressed as parts per 100,000): —

	Into Alexandra Road Stream		Into Serangoon River	
	Range	Average	Range	Average
Free and Saline Ammonia ...	0.24/1.92	0.88	0.80/4.0	2.48
Albuminoid Ammonia ...	0.12/0.60	0.29	0.3/1.6	0.73
Oxygen absorbed in four hours ...	0.44/2.15	1.10	1.35/4.75	2.85
Bio-chemical oxygen demand ...	0.59/4.25	1.65	1.40/14.1	5.95
Total Solids ...	31.1/318.6	79.5	39.8/130.0	69.8
Suspended Solids ...	0.5/6.1	2.1	0.9/15.8	4.4
Nitrates (as N ₂) ...	abs/1.3	0.4	abs/abs	absent
Chlorides (as Cl) ...	9/125	26	12/50	21
pH Value ...	7.3/7.9	7.5	7.1/7.9	7.4

The good quality of the final effluent into Alexandra Road stream was maintained. The results for Kim Chuan Road final effluent fluctuated considerably during the year but the average results cannot be considered satisfactory. The purification plant was greatly handicapped by the frequent black-outs during the year. With the improvement in electrical supply better quality effluents can be expected and present indications support this belief.

Sewage Effluents from Small Installations

The samples submitted represent the final effluents emptying into open drains. The annual averages and ranges of values, in parts per 100,000 of the 229 samples analysed were as follows:—

	Range	Average
Free ammonia ...	0.16/6.7	1.39
Albuminoid ammonia ...	0.08/1.2	0.35
Oxygen absorbed in four hours ...	0.14/3.95	1.24
Suspended Solids ...	0.5/12.4	2.6
Chlorides ...	0.8/12.4	3.3
Nitrates ...	abs./4.8	0.6

The overall average standard of the effluents showed improvement during the year—a result, probably, of more frequent sampling and prompt attention to poor installations.

HEALTH DEPARTMENT

The following samples were received:—

Soda Water ...	84	Coffee Mixtures and Powder ...	36
Well Water ...	43	Groundnut oil ...	5
Aerated Water ...	7	Cheese ...	2
Barley Water ...	3	Jam ...	3
Water ...	3	Cream ...	3
Pool Water ...	7	Honey ...	2
Milk ...	174	Tea ...	7
Sweetened Condensed Milk ...	21	Pepper powder and mixtures ...	6
Evaporated Milk ...	3	Sesame seeds ...	2
Frozen Milk ...	1	Coriander Powder ...	1
Sauce and Vinegar ...	18	Bread ...	2
Sugars ...	17	Castor oil ...	1
Dessicated Coconut ...	2	Whisky ...	2
Peppermint ...	1	Curry Powder ...	4
Cooking products ...	5	Turmeric Powder ...	1
Margarine ...	4	Zest ...	1
Ghee ...	2	Wheat flour ...	2
Lard ...	1	Spices ...	3
Egg Powder ...	1	Seeds ...	6
Colouring matter ...	1	Anti-malarial oil ...	1
Cordials ...	15	Drugs ...	22
Gingelly oil ...	10	Canned Foodstuffs ...	40

Samples submitted for analysis by the Health Department Inspectors increased considerably both in range and quantity. Special attention was paid to the more commonly adulterated foodstuffs e.g. milk, coffee, pepper, cooking fats, etc. Canned foodstuffs suspected of being unfit for human consumption continued to merit investigation and many large consignments were condemned.

The use of the secret component for the dye used in the City Abbatoirs chop was continued. 173 chops were examined by Sanitary Inspectors and positive results obtained in all cases.

A summary of prosecutions resulting from breaches of the Food and Drugs Regulations during the year is shown in Table *D* attached.

ELECTRICITY DEPARTMENT

The following samples were received for analysis: —

Fuel oil	...	...	266	Purified Transformer oil	...	1
Boiler water	...	...	613	Paint	...	2
Transformer oil	...	...	48	Cable	...	1
Deposits	...	...	6	T/N Ribbon Tin	...	1
Scale	...	...	1	Boiler Exterior Super-heater	...	1
Sludge	...	...	1	Water	...	8

There was an increase in the number of samples received from the Electrical Department due probably to the opening of the new power station at Pasir Panjang.

GAS DEPARTMENT

The following samples were received for analysis: —

Spent oil	...	...	24	Coke	...	3
Spent Oxide	...	...	16	Gas Coal	...	4
Boiler Water	...	...	8	Boiler Water Gauge Glass	...	2
Coal	...	...	67	Pig lead	...	1

New coal contracts were placed by the Gas Department and analysis, in many cases showed that the quality supplied was not up to specifications. The analytical work of the laboratory enabled the Gas Department to have costs re-adjusted thus saving quite appreciable sums of money for the City Council.

FIRE BRIGADE

Three samples were received as follows: —

Thinner	2	Film	...	1
---------	-----	-----	---	------	-----	---

These samples were received in connection with dangerous and inflammable material.

ENGINEER'S DEPARTMENT (INCLUDING STORES AND WORKSHOPS)

Three samples were received as follows: —

Transformer oil	1	Glazed piping	...	2
-----------------	-----	-----	---	---------------	-----	---

ARCHITECT'S DEPARTMENT

Four samples were received as follows: —

Scrapping from paints	...	...	1	Building Slabs	...	2
Wood-wool	...	...	1			

BACTERIOLOGICAL DEPARTMENT

Two samples were received as follows: —

Ground Coffee	2
---------------	-----	-----	---

Both samples of coffee were found to be seriously adulterated with roasted maize.

TOWN CLEANSING DEPARTMENT

Three samples were received as follows:—

Ash	1	Refuse	2
-----	-----	-----	---	--------	-----	-----	---

VETERINARY DEPARTMENT

Four samples were received as follows:—

Buffer solutions	2	Stainer	2
------------------	-----	-----	---	---------	-----	-----	---

REGISTRAR OF VEHICLES

Two samples were received as follows:—

Carborundum and gelatinous substance	...	2
--------------------------------------	-----	---

COMMERCIAL FIRMS, ETC.

A total of 2,464 samples were reported on. These may be classified as follows:—

Essential Oils	...	...	...	29
Vegetable Oils	...	...	...	811
Ores	...	...	...	98
Alloys	...	...	...	9
Food	...	...	...	193
Chemicals	...	...	...	75
Local Produce (other than above)	...	...	...	780
Damaged Goods	...	...	...	131
Miscellaneous	...	...	...	338
Total				2,464

The types of samples received under these main classifications are as follows:—

Essential Oils

Citronella. patchouli. gingelly.

Vegetable Oil

Coconut, palm, sludge, ghee, mustard oil, magarine, cooking-fat, cooking-oil, groundnut oil.

Ores

PbS, Silver, SiO₂, Fe₂O₃, MnO₂, Wolfram, Bauxite, Copper, Iron, Galena, Slags, Metal, Clay, Graphite, Monazite sand, Copper Pyrites, Zinc, Mineral.

Alloy

Ingot, Cast-iron, Scrap metal, Eyelets, White Metal, Aluminium.

Food.

Canned food, sweetened condensed milk, reconstituted milk, white sugar, cooked ham and pork, pudding, mushrooms butter, milk powder, chocolate milk, cordials, flour, sweets, jaggery powder, sago-flour, coffee, tapioca flour, pepper mixture, soya-beans, fruit drink, orange drink, champagne.

Chemicals

Methyl chloride gas, calcium carbide, nitrate of soda, soda-ash and limestone, methyl violets, phenoxone, methyl salicylate, tonic, glycerine, Co₂ gas. formic acid, solution, rubber coagulating acid, acetic acid, medicines, dimethyl

phthalate, medicinal powder, sodium arsenite, combustion residue, caustic-potash, crystalline substance, hydrogen peroxide, marenodex fluid, normal sulphuric acid, acetic acid, squibs insulin and belamyl.

Local Produce

Jelutong, copra, derris root, pearl sago, tuba-root, sundried copra, tuba root powder, soap, patchouli leaves, cutch, gambier, centrifuged latex, gum damar, rubber, soap residue, tiger balm, sago-flour.

Damaged Goods

Packings, medicinal goods, chemicals and gunny cuttings, cement paper bag, cement, textile, cotton wrapping, rubber, yellow metal, crates, galvanized corrugated sheets, gunny bag and rice, sacking, mushrooms, table-cover, galvanized cast pipes, shoulder splits, film, lining of tea chests, eucalyptus oil, aluminium sheets, canned sardines, tea dust, carbon-black, milk and cardboard, newspaper, specimen, plated trays, wood-wool packing, basket, straw packing, milk, iron-sheets, blanket, rubber blankets, packings, buckles, hessian and long pepper, stethoscope, malt, stencil ink, rope sling, water steamer, sounding equipment, maize, galvanized wire, spring valves.

Miscellaneous

Pool water, water, washer water, brine water, coal, cable, grass and silage, whisky, steel and saw, ground wattle bark, fresh water, cooling water, sand, baby's (aublek) mixture, septic effluent, beer, cutch, gasoline and diesel oil detergents, bricks, anti-malaria oil, well water, snow white petrolatum, wood-oil, nicotine, pills, tung-oil, talcum powder, tung oil, vaseline, battery plates, bees-wax, distemper paste, paraffin wax, palm fruit pulp, marble panels, pipes, anti-opium, river water, sewage effluent, ballast, earth, cement, eye-drops, ash, coal tar, guano, tank encrustation, anthracite, cigars, deposit, coarse aggregates, crude cotton seed oil.

ACCOMMODATION

The appallingly overcrowded conditions of working continued and no additional accommodation has yet been allocated.

STAFF

The Senior Staff commenced weekly lectures to laboratory assistants. This is made necessary by the absence of any adequate evening classes for laboratory technicians.

The writer sat on a Food and Drugs Amendment Committee during the year. Dr. Jamieson, Supernumerary Analyst, was a member of a Committee enquiring into Industrial and Commercial Safety Controls.

Mr. Lim Chin Kuan, understudy Deputy Analyst, proceeded to United Kingdom in February to undergo further training.

Pending the filling of the new post of Assistant Analyst, Mr. Swee Lian Choo's services were further extended in a Supernumerary capacity.

It is with pleasure that I have to record my thanks to all members of the staff for their willing and helpful co-operation during the year.

T. A. SPILLANE, M.Sc., A.R.I.C., F.I.C.I.
City Analyst.

TABLE A

RESERVOIR WATER

AVERAGES OF DAILY ANALYSIS FOR YEAR 1952

Parts per million		PONTIAN		PULAI		MACRITCHIE		PEIRCE	
		Average	Range	Average	Range	Average	Range	Average	Range
Nitrites	..	a	a/trace	a	..	a	a/trace	a	..
Carbon Dioxide	..	2.0	1.0/5.4	5.0	1.5/8.0	2.0	0.5/5.5	2.0	1.0/4.0
Alkalinity (as CaCO3)	..	4.8	3.0/10.0	5.7	4.0/10.0	2.6	2.0/4.0	2.3	1.0/4.0
pH Value	..	6.3	6.0/7.5	6.0	5.9/6.3	6.0	5.6/6.3	5.9	5.3/6.3
Iron	..	.50	.30/1.2	.68	.30/1.6	.41	.20/1.0	.54	.20/1.2
Colour (Hazen Units)	..	27	17/65	37	16/100	29	18/55	35	19/60

TABLE B

PURIFIED WATERS

AVERAGES OF DAILY ANALYSIS FOR YEAR 1952

	PULAI		BUKIT TIMAH		WOODLEIGH	
	CLEAR WATER TANK		CLEAR WATER TANK		CLEAR WATER TANK	
	Average	Range	Average	Range	Average	Range
Nitrites	a	a/trace	a	a/trace	a	a/trace
Carbon Dioxide	a	a/2.0	a	a/0.5	a	a/1.0
Alkalinity (as CaCO ₃)	12.8	8.0/18.0	11.0	8.0/14.0	17.0	14.0/28.0
pH Value	8.8	7.0/9.6	8.5	7.3/9.1	8.6	7.3/9.6
Free Chlorine .. .. .	.46	.05/.70	.11	.02/.35	.20	.04/.45
Soluble Aluminium .. .. .	.08*	a/.25*	1.26	.10/3.5	..	..
Iron .. .. .	.40	.20/.70	.30	.10/.50	.40	.10/.80
Colour (Hazen Units)	21	11/35	15	7/24	18	8/35

* These figures represent the last 5 months of the year.

CLEAR WATER TANKS

AVERAGES OF MONTHLY COMPLETE ANALYSIS 1952

Parts per million	PULAI		BUKIT TIMAH		WOODLEIGH	
	CLEAR WATER TANK		PUMPING MAIN		CLEAR WATER TANK	
	Average	Range	Average	Range	Average	Range
Free ammonia	.10	.06/.20	.07	.02/.12	.14	.08/.20
Alb. ammonia	.07	.02/.12	.07	.02/.12	.06	.04/.08
Nitrites	a	a/trace	a	a/trace	trace	a/trace
Nitrates	.012	a/.03	a	a/.015	.01	a/.06
Carbon Dioxide	a	..	a	a/0.5	a	..
Alk. (as CaCO3)	11.8	9.0/16.0	10.4	8.0/12.0	17.2	16.0/20.0
Free Chlorine	.43	.25/.60	.12	.05/.25	.20	.07/.35
Iron	.40	.30/.50	.26	.20/.30	.46	.20/.70
Soluble Aluminium*	.06	a/.15	1.30	.60/2.25	..	..
Chlorides	5.8	4.5/6.0	5.3	4.0/6.5	5.0	4.0/6.0
pH	8.7	8.3/9.1	8.1	7.3/8.6	8.6	8.2/9.0
Oxygen absorbed in 4 hours	.63	.46/.84	.56	.31/1.31	.50	.23/.99
Hardness: {	11.7	9/16	10.3	8/12	17.0	16/20
	2.6	1/8	19.5	15/24	7.6	5/10
	14.3	10/20	29.8	26/35	24.6	21/28
Solids: {	22.8	10.0/40.8	17.0	10.4/23.6	20.2	10.0/32.8
	23.8	16.0/40.5	36.5	24.0/50.8	19.1	12.8/25.2
	46.6	31.6/65.6	53.5	42.0/65.2	39.3	28.8/54.0
Colour (Hazen Units)	20	16/24	16	11/20	20	12/28
B.O.D. in 5 days	.80	.53/1.27	.83	.33/1.3	.98	.27/2.0

*These figures represent 5 samples only.

TABLE D

SALE OF FOOD AND DRUGS ORDINANCE		Prosecution	Not Served	Conviction	Fines
Selling Adulterated Milk	31	13	\$ 810
Selling Adulterated Coffee Mixture	11	1,480
Selling Adulterated Coffee Powder	1	200
Selling Adulterated Coriander Powder	1	50
Selling Adulterated Coffee	1	300
Selling Adulterated Pepper	2	50
Selling Adulterated Gingelly Oil	1	250
Selling Orange Cordial containing Saccharin	1	200
Selling Barley Syrup containing Saccharin	1	25
Selling Almond Syrup containing Saccharin	1	25
Selling Almond Syrup containing Saccharin and without English label	1	45
Selling Orange Crush containing Saccharin and without English label	1	200
Selling Almond Syrup without English label	1	20
Selling Castor Sugar with a false label	1	250
Selling Coffee with a false label	1	300
Selling Adulterated Groundnut Oil and without English label	1	300
Selling Adulterated Gingelly Oil and containing mineral oil	1	250
Selling Food bearing a label that the contents was Ghee which was false and not ghee and without an English label	1	200

BACTERIOLOGICAL LABORATORY

PUBLIC HEALTH SPECIMENS

A.	PUBLIC HEALTH SPECIMENS	...	...	34,978
B.	WATER—			
	(1) Routine	...	...	12,713
	(2) Mount Emily Swimming Pool	...	...	1,085
	(3) Miscellaneous	...	...	348
	(4) Algae and Others	...	...	154
C.	SEWERAGE—			
	Wash Water	...	...	36
	Grand Total	...	...	49,314

A.—PUBLIC HEALTH SPECIMENS

The total number of specimens received were 34,978 and involving 41,928 examinations.

MALARIA

Species					Positive	Negative	Total
P. falciparum	..	..	..	..	10	..	10
P. vivax	..	..	..	..	25	..	25
Mixed infection	..	..	..	..	1	..	1
Total Negatives	..	..	..	..	..	3,424	3,424
Grand Total					36	3,424	3,460

TUBERCULOSIS

Source					Positive	Negative	Total
Sputum	..	..	..	..	151	2,006	2,157
Others	..	..	..	..	24	75	99
Grand Total					175	2,081	2,256

ENTERIC FEVER

Blood for Widal Reaction					Positive	Negative	Total
Agglutination with Salmonella Typhi	..	..	..	..	103	279	382
.. .. Sal. paratyphi A.	..	..	..	..	..	357	357
.. B.	..	..	..	..	3	354	357
.. C.	..	..	..	..	..	357	357
.. .. Vi I antigen	..	..	..	..	36	226	262
Blood clot culture Sal. typhi isolated	..	..	..	..	38	322	360
Faeces	..	..	..	..	57	896	953
Urine	..	..	..	..	15	892	907
Post-mortem specimen of Intestine for isolation of Sal. typhi	..	..	..	..	..	1	1
Grand Total					252	3,684	3,936

A mild outbreak of typhoid among the employees of a local firm occurred in early April. Bacteriological investigations on a number of employees from the food caterer, revealed the presence of a human carrier among one of the employees. His blood serum gave a Vi I agglutination titre of 1/320 and the typhoid bacillus was persistently isolated from his stool.

Through the courtesy of Dr. A. Felix, Central Enteric Reference Laboratory, Collindale, London, five cultures of typhoid bacillus isolated from the patients in this outbreak and that of the carrier were forwarded to him. He reported that all the cultures belonged to Vi-phage Type *A*.

Besides, seven other cultures from typhoid patients not related to this outbreak were also typed and six cultures belonged to Type *A* and one Type *E.1*.

TROPICAL TYPHUS

Blood for Weil Felix Reaction:—

Number of sera POSITIVE for <i>B. proteus</i> OXK	..	1
“ “ “ “ “ “ “ OX19	..	1
“ “ “ investigated	..	100

DYSENTERY

	Positive	Negative	Total
Faeces examination for AMOEBAE:—			
<i>E. histolytica</i>	95	..	95
<i>E. coli</i>	14	..	14
Negative .. .. .	..	2,392	2,392
Total ..	109	2,392	2,501
Faeces for culture for BACILLARY DYSENTERY:—			
<i>Shigella flexner</i>	70	..	70
<i>Shigella sonnei</i>	9	..	9
Negative .. .. .	..	836	836
Total ..	79	836	915
Grand Total ..	188	3,228	3,416

PLAGUE

No human specimens were received.

4,949 rats were dissected and none showed any signs of plague infection.

4,043 ecto-parasites were examined.

The species and distribution of all the rats and ecto-parasites that were examined are given in the following table:—

Source	R. NORVICIGUS		R. RATTUS		R. CONCOLOR		R. MUSCULUS		Croci- dura	TOTALS			Pregnant
	M.	F.	M.	F.	M.	F.	M.	F.		Fleas	Mites	Rats	
1. Town Area ..	1,048	2,004	119	140	273	289	73	33	58	3,167	206	4,037	154
2. S.H.B. ..	14	64	64	100	17	4	1	1	..	59	9	265	19
3. Health Officer (Port) ..	1	6	15	16	4	5	13	14	..	2	..	74	3
4. Health Officer (Rural) ..	2	35	51	90	130	175	32	56	2	483	117	573	41
Total ..	1,065	2,109	249	346	424	473	119	104	60	3,711	332	4,949	217
	3,174		595		897		223			4,043			
Total Pregnant ..		126		23		53		15	..		..		217

A total of 156 dead rats were received from the following sources:—

1. Town Area ..	77
2. S.H.B. ..	2
3. H.O. (Port) ..	74
4. H.O. (Rural) ..	3

Total .. 156

Of the 3,711 fleas caught and examined 12 were identified as *C. felix* and the rest were *X. Cheopis*.
The flea index in the Town Area was 0.78.

CEREBRO-SPINAL FEVER

Five specimens of cerebro-spinal fluid were examined and the meningococcus was not demonstrated in any of the specimens.

LEPROSY

Skin smears—Positive	...	...	...	31
Negative	...	...	...	155
Total number examined	...			186

DIPHTHERIA

Throat swabs—Positive	...	...	...	494
Negative	...	...	...	4,597
Total number examined	...			5,091

MISCELLANEOUS EXAMINATIONS

Urine for General examination	...	...	...	1,858
Blood for Kahn Reaction	...	...	...	1,934
Cerebro-spinal fluid for Kahn Reaction	...	...	...	2
Faeces for Intestinal Parasites	...	...	...	9,683
Sundried Humus	...	...	...	95
Tinned Foods	...	...	...	9
Milk	...	...	...	152
Ice-cream	...	...	...	31
Disinfectant	...	...	...	6
Others	...	...	...	716
Grand Total	...			14,486

B.—WATER

12,713 routine samples of water from the City Water Engineer were tested bacteriologically.

Throughout the year, the condition of the tap water remained satisfactory.

Results of examination on the various samples were summarized in the following table:—

Source	Year's average total colonies per m.l. at 37°C. in 24 hours	Year's average presumptive coliform count per 100 m.l.
MaeRitchie Reservoir, Valve Tower	297	18
Peiree Reservoir, Valve Tower	342	10
Seletar Reservoir, Channel	231	13
Pontian Reservoir, Valve Tower	444	23
Bukit Timah Reservoir, C.W.T.	18	0
Woodleigh Reservoir, C.W.T.	30	0
Gunong Pulai Reservoir, C.W.T.	20	0
Pontian Reservoir, Camp Supply	69	Less than 1
Pearl's Hill Reservoir, Tank No. 1	38	0
Pearl's Hill Reservoir, Tank No. 2	38	0
Pearl's Hill Reservoir (Air Valve)	47	0
Fort Canning Reservoir	101	0
Halesworth	35	0
Taps—Baeteriological Laboratory	78	0
Lorong Lalat	68	Less than 1
Joo Chiat Office	59	0
Havelock Road	76	Less than 1
Pasir Panjang	82	Less than 1
Average of 5 taps	73	Less than 1

MOUNT EMILY SWIMMING POOL

A total of 1,085 samples were tested from Mount Emily Public Swimming Pool and were found to be satisfactory throughout the year.

The following table gives the average results for the year:—

Source					Year's average total colony counts per m.l. at 37°C. in 24 hours	Year's average presumptive coliform count per 100 m.l.
Shallow End	..	..	..	..	28	Less than 1
Centre Deep	..	..	..	..	30	Less than 1
Filter Outlet	..	..	..	..	57	Less than 1

STAFF

Dr. Ling Ding Seng was appointed to the department on 14th December, 1951 as Assistant Bacteriologist. He was transferred to the Health Office on 22nd November, 1952.

NG SEE YOOK, L.M.S. (S'pore), D.P.H. (Lond.),
City Bacteriologist.

MATERNITY AND INFANT WELFARE DEPARTMENT

			1952	1951
1.	<i>Total Live and Still Births reported</i>	...	37,243	35,414
	Of these—Still Births	...	714	638
2.	<i>Visits paid by Health Visitors to Homes:—</i>			
	1st visits to new babies	...	28,639	28,462
	Subsequent visits to babies	...	57,317	55,158
	Total	...	85,956	83,620
3.	<i>Percentage of total Births visited by our Health Visitors</i>		78.4%	85.85%
4.	<i>Clinic Consultations</i>			
	A. INFANTS			
	New infants 1st attendances at Clinics	...	17,720	16,065
	Subsequent attendances of all infants	...	85,020	79,467
	Total attendances	...	102,140	95,532
	Of these, attendances of sick babies	...	66,364	58,991
	i.e. ...	...	64.97%	61.75%
			of all baby attendances at Clinics.	
	B. TODDLERS			
	Consultations held on sick toddlers	...	27,215	7,455
	C. SICK MOTHERS			
	Number of treatments given to sick mothers at Clinics and on Districts	...	8,944	6,499
	D. ANTE-NATAL CONSULTATIONS IN CLINICS			
	(a) New Ante-Natal Mothers attendances	...	2,593	2,599
	(b) Subsequent attendances of Ante-Natal Mothers	...	4,993	5,431
	Total attendances	...	7,586	8,030
	(c) Ante-Natal Home visits to verify social conditions of booked cases	...	2,129	3,391
	(d) Number of Blood W.R. taken on Ante-Natals	...	156	—
	Of these, positive cases are	...	18	—
	E. IMMUNISATION AGAINST DIPHTHERIA			
	Under one year old—1st injection	...	6,966	4,439
	2nd injection	...	5,777	3,691
	Total injections given	...	12,743	8,130
	Over one year old—1st injection	...	26,197	2,478
	2nd injection	...	22,720	2,263
	Total injections given	...	48,917	4,741
	Contact cases—1st injection	...	226	394
	2nd injections	...	211	252
	Total injections given	...	437	646
	Febrile reactions to injections	...	3,521	878
	Refused injections	...	38	54
	Visit to homes of defaulters	...	2,802	1,842

	1952	1951
<i>F. B.C.G. INNOCULATION (JANUARY–AUGUST)</i>		
Number of children tested	9,165	5,164
Number of B.C.G. given	4,439	2,461
Number of positive cases	3,387	—
Number of negative cases	4,609	—
<i>G. FREE MILK POWDER DISTRIBUTION</i>		
Total number of New Babies issued with Free Milk	1,627	1,201
Number of Nursing Mothers issued with Free Milk	263	53
Total number of Re-issues	21,558	18,612
Amount given to Salvation Army ...	480 lb.	400 lb.
Amount given to Convent Orphanage ...	600 lb.	400 lb.
Grand total number of lb. of Powdered Milk used	22,355 lb.	18,150 lb.
Total lb. received from Government ...	20,000 lb.	22,000 lb.
Total lb. received from Private Firms ...	1,440 lb.	—
<i>H. FAMILY PLANNING</i>		
Number of cases fitted at Clinics	882	1,356
Number of revisits to Clinics	1,187	1,485
Unsuitable cases	42	126
Cases referred to F.P.A. and K.K. Hospital	461	151
Cases fitted on account of ill health ...	239	73
<i>N.B.—Family Planning Association gave us \$1,000 end of 1950 to buy stock—we have made use of this sum since to roll and no money from City Council is being used for this purpose.</i>		
<i>5. Free Midwifery Services from the Clinics</i>		
(a) Free confinement conducted by eight City Council Midwives on districts	1,211	1,349
(b) Bathing of cases referred from K.K. Hospital	3,160	3,017
(c) Bathing cases from self-attended	244	231
(d) Abnormal cases sent to K.K. Hospital ...	16	30
(e) Total visits paid by City Midwives to patient's homes	16,011	15,648
<i>6. Supervision of Midwives by Supervisor of Midwives</i>		
(a) Number of inspections of Private Midwives' Bags in three Clinics	2,161	2,440
(b) District visits to check on all Private Midwives' work	1,012	—
(c) Puerperal Fevers reported and investigated ...	78	69
	+ 2 from rural	
(d) Tetanus Neonatorum reported and investigated	9	19
(e) Ophthalmia Neonatorum reported and investigated	15	—
<i>7. Nature of Confinements within City Area</i>		
In Hospital (Kandang Kerbau)	15,059	13,923
By Private Doctors and in Private Maternity Homes	3,950	3,313
By Private Midwives	16,212	16,076
With NO skilled attention	1,614	1,815
Total Confinements	36,835	35,127

		1952	1951
8. <i>Of 36,835 Confinements:—</i>			
(a) Mothers actually seen by District Sisters	...	21,520	20,992
(b) Mothers died in Puerperium	... ..	9	16
(c) Mothers removed and/or untraced	...	221	204
Home visits by Sisters to trace (a), (b) and (c)		23,846	23,275
9. Number of live Twins	... ..	285	280
Number of Triplets	... ..	2	1
Neonatal Deaths	... ..	1,317	1,101
Still Births	... ..	714	638
10. INFANTILE MORTALITY RATE	... ..	75.34%	78.79%
11. BIRTH RATE	... ..	47.36%	46.50%
12. MATERNAL DEATHS REPORTED	... ..	68	58
13. Female City Council Employees examined for employment in the various Departments of City Council		83	no record

COMMENTARY

Health Visiting

In 1952, there was a slight increase of 1,829 births over 1951 figure for the City area.

Of the total births registered at the City Council, i.e. 37,243 our Health Nurses visited 78.4 per cent as against 85.85 per cent in 1951.

CLINIC ACTIVITIES

Infants

There were 102,140 clinic consultations held on infants—an increase of 6,608 over 1951 figure. Of these, 64.97 per cent of the attendances were for sick and ailing babies.

From these figures one can't help feeling that the public has come to regard our clinics as out-patient treatment centres rather than advising and preventive.

Toddlers

Even sick toddlers consultations have more than trebled 1951 figures (1952 = 27,215, 1951 = 7,455).

Until and unless Government has established a proper children hospital or even out-patient department, our preventive and advising Infant Welfare work has to give way to treatment for the sick babies and toddlers who have no place to go to seek help when ailing and sick.

B.C.G. Innoculation

B.C.G. inoculation were carried out only for a period of eight months, i.e. January to August.

Diphtheria Immunization

The public response to diphtheria immunization has been and will always be poor unless some measures are taken to shake them out of that lethargy. Why the public is willing to come forward and ask for B.C.G. inoculation is because the picture of a cachetic T.B. patient is too well known to them; whereas the public has still yet to see a child with laryngeal diphtheria struggling for breath, before it can really appreciate the value of our campaign. A great deal of man-power is being utilised to go out and get the mothers to bring their infants for immunization, but with very little result.

Ante-natal and City Midwives work

It is not surprise to see that our Ante-Natal work has gone down rather than up, because more and more patients are hospital-minded when it comes to confinement. This in turn has a repurcussion in the number of free confinement cases conducted by our City Midwives.

But our City Midwives are kept very busy by the enormous number of post-Natal cases referred from Kandang Kerbau Hospital for post-natal bathing of infants at their homes.

SUPERVISION OF MIDWIVES BY SUPERVISOR OF MIDWIVES

Since the return of Sister Eu Moi from U.K. she has been given the job of checking Private Midwives while at work on district. In so doing she imparts to the private Midwives the knowledge she acquired in U.K. when taking her Central Midwives Board Examination. This actual supervision on district could not be carried out before because none of our Health Visitor had that training; while the European Sisters before her were handicapped by the lack of the knowledge of the various local dialects.

It is too early to produce spectacular results of her work but what little good she has done is shown by the figure for Tetanus Neonatorum which is halved.

District Sister's Work

As I have said before, there is an increasing tendency to have babies born in Hospitals, either Kandang Kerbau Hospital or private homes. It is very gratifying to find that the public has come to appreciate Hospitals rather than dread them.

Unfortunately we still have 1,614 cases of confinement with no skilled attendance inspite of the facilities of Hospital and our free Midwifery services. Lack of proper transport to link up the kampongs with the main roads plays a large part in keeping up this figure of 'no skilled attendances'. Many of these mothers are multipara and hard-working women who produce babies without much fuss, which there is always the old mother-in-law to stand by to give a hand.

In spite of it all—Tetanus Neonatorum are only 9 for the year, but Maternal Morbidity must be high and unfortunately no figure is available.

Of the total 36,835 Mothers confined in the City area, the District Sisters visited and checked on 21,750 i.e. 59 per cent of all confinements.

FAMILY PLANNING

This branch of our work has decreased greatly owing to the fact that Government has established several Family Planning Association centres all over the City.

We therefore concentrate mainly on those cases where ill health is the main indication for Family Planning advices.

MIDWIVES

Owing to the enormous number of quickly discharged post-natal mothers from Kandang Kerbau Hospital, our City midwives have a busy time following up those cases with post-natal washing. Babies are often discharged three or four days after birth—before their cords are off—our midwives are told to follow up with washings and bathing of these babies. The figure for this type of work equals 3,160 from Kandang Kerbau Hospital alone; while there were only 244 washings from self-attended cases.

Because of the preference for hospital delivery our case figures for our midwives have dropped to below previous year.

FEMALE CITY EMPLOYEES

There seems to be an obvious tendency for a steady increase in the employment of female employees by the various Departments in the City Council. Last year there were eighty-three new recruits and the onus of examining these employees for employment and at various intervals for sickness and maternity fell on Dr. Maggie Lim at first and later on me. The question of being medically responsible for these eighty-three, together with those female employees of previous years, as well as future recruits is going to create a serious problem for the Senior Assistant Health Officer (Maternity and Infant Welfare) whose time-table is very full as it is. The Health Officer would be well advised to bring this matter up at a future date with the City Councillors.

MARY TAN, M.B.B.S.,
*Senior Assistant Health Officer,
Maternity and Infant Welfare Department.*

MIDDLETON HOSPITAL

TABLE I below shows the number of admissions, discharges, deaths, etc., during the year.

TABLE I

Diseases				Remaining 31-12-51	Admitted	Dis- charged	Died	Remaining 31-12-52
Small-pox	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	8	450	445	..	13
Measles and Rubella	..	..	..	4	151	148	7	..
Diphtheria	..	..	..	17	427	343	80	21
Diphtheria Carrier	..	..	..	1	55	55	..	1
Meningococcal Meningitis	..	..	..	..	2	2	..	..
Enteric Fever	..	..	..	33	117	136	6	8
Para Typhoid "C"	..	..	..	..	3	3	..	..
Tropical Typhus	..	..	..	..	4	4	..	..
Ac. Ant. Poliomyelitis	..	..	..	34	50	36	88	40
T.B. Meningitis	..	..	..	1	6	4	3	..
Amoebic Dysentery	..	..	..	7	92	96	2	1
Bacillary Dysentery	..	..	..	1	22	23	..	..
Clinical Dysentery	..	..	..	..	9	8	..	1
Diarrhoea and Enteritis	..	..	..	1	14	10	5	..
Erysipelas	..	..	..	1	3	4	..	..
Whooping Cough	..	..	..	..	3	2	1	..
Mumps	..	..	..	..	15	15	..	..
Other Diseases	..	..	..	3	158	150	8	3
Typhoid Carrier observations	..	..	..	9	24	33	..	..
Observations	..	..	..	1	191	190	..	2
Total				121	1,796	1,707	120	90

DANGEROUS INFECTIOUS DISEASES

There was no case of Small-pox, Cholera or Plague.

Enteric Fever

One hundred and seventeen cases of Typhoid fever were admitted during the year and with 33 cases remaining on 31st December, 1951, a total of 150 cases were treated. Six cases died, a case fatality rate of only 4 per cent, a good record. One case died within 24 hours of admission. The causes of death were as follows:—one intestinal hæmorrhage and the five toxæmia and cardiac failure.

Table II shews the monthly number of admissions and deaths of Typhoid fever.

TABLE II

		January	February	March	April	May	June	July	August	September	October	November	December
No. of Adm.	..	21	14	14	11	10	14	2	2	9	6	6	8
No. of Deaths	..	..	..	..	1	2	1	..	..	..	2	..	..

Typhoid fever broke out in a mild localised epidemic form in the second half of December 1951, with 27 admissions from 16th December, 1951 to 31st December, 1951 compared to 12 cases from 1st December, 1951 to 15th December, 1951. This was followed by 21 admissions in January, 14 in February, and 14 in March. This mild outbreak was, however, traced to a common source of infection as was reported in the 1951 Annual Report, to a wedding dinner held at Paya Lebar. Of the approximate 100 guests at this dinner, 30 contracted typhoid fever, and 22 were admitted to this hospital for treatment. The City Health Officer took prompt measures to contact the food caterer. Eight food handlers were immediately isolated in this hospital for investigations as possible typhoid carriers. After a period of investigations of their bloods, stools and urines, with negative results, they were released, although one of them showed a positive Vi I Agglutination titre of 1/320 in his blood serum but the typhoid bacillus was not found in his stools and urines.

About the 20th April, 1952, 5 cases of Typhoid Fever were admitted into the hospital, all employees of a local firm. The history was that they felt ill about the same time after attending the annual staff dinner of the firm on 8th March, 1952. Investigations by the City Health Department at the firm revealed another 15 employees reporting sick about the same time. Further investigations also showed that at this dinner, 2 separate caterers, a Cantonese and a Hokien supplied the food, and all those who became ill took the Hokien food which was prepared by the same caterer as reported above. Another round up of all the employees of this establishment was carried out and among the suspects, one was definitely proved to be a typhoid carrier, excreting typhoid bacillus in his stools persistently. This carrier was missed in the first round up as he was not living in the premises. He was detained in the hospital for more than two months, and given a full course of treatment. On discharge, he was influenced to change his profession.

It is interesting to record that seven bacterial cultures of typhoid bacillus, all isolated from the patients in the second outbreak and this typhoid carrier, were sent to Dr. A. Felix, F.R.S., Central Enteric Reference Laboratory, Colindale.

London, for Vi-phage typing and who reported that the cultures belonged to Vi-phage type A, thus proving conclusively that the carrier was the culprit of this outbreak.

Diphtheria

427 cases of clinical Diphtheria were admitted during 1952, 57 cases more than 1951 and with 17 cases remaining at the end of 1951, a total of 444 cases were treated during the year. Fifty-five cases of cultural (or contact-carriers) were also admitted during the year. This figure is *not* included in the clinical cases.

TABLE III

Types of cases					Admissions	Deaths
Laryngeal and Tracheal	..	..	..	..	170	65
Nasopharyngeal	..	..	..	..	56	9
Faucial or Tonsillar	..	..	..	..	192	6
Nasal	..	..	..	..	9	..
Total					427	80

TABLE IV

ADMISSIONS AND DEATHS BY NATIONALITIES

Race					Admissions	Deaths
Europeans	..	..	..	..	1	..
Eurasians	..	..	..	..	5	..
Indians	..	..	..	..	16	..
Chinese	..	..	..	..	392	75
Malays	..	..	..	..	11	5
Others	..	..	..	..	2	..
Total					427	80

TABLE V

ADMISSION AND DEATHS BY AGE GROUP

Age					Admissions	Deaths
1 year below	..	..	..	..	67	26
1— 2 years	..	..	..	..	97	18
2— 5 „	..	..	..	..	161	30
5—10 „	..	..	..	..	70	4
10—15 „	..	..	..	..	19	2
15—20 „	..	..	..	..	5	..
Above 20 years	..	..	..	..	8	..
Total					427	80

TABLE VI

ADMISSIONS AND DEATHS BY MONTHS

		January	February	March	April	May	June	July	August	September	October	November	December
Admissions ..	..	40	27	31	48	28	34	47	45	39	30	23	35
Deaths ..	..	8	6	13	11	5	3	11	3	5	5	5	5

Total Admissions = 427.

Total Deaths = 80.

A slight departure has been effected in calculating the mortality rate of Diphtheria cases this year. In previous years, the mortality rate was calculated on the total number of admissions *which included contact-carrier cases as well*. But this year clinical cases of Diphtheria have been separated from cases of contact-carriers and the mortality rate is based *entirely on the clinical cases*. If therefore, the mortality rate this year shows no improvement compared to previous years or even if it is slightly higher, the above fact will be borne in mind.

Of the 427 cases of clinical Diphtheria admitted 80 cases died, a crude case fatality rate of 19 per cent. Out of the 80 deaths, 49 died within 24 hours of admission and if these are excluded, the corrected death rate will be only 7 per cent. Tracheotomy was performed on 126 cases or 29.5 per cent of the admissions, almost one in every three cases admitted into the hospital. Of these 126 Tracheotomy cases, 51 died, equal to 40 per cent and of these 51 deaths, 28 cases died within 24 hours after Tracheotomy.

The figures will, naturally, speak for themselves. All the comments that the writer made in his previous years' annual reports still held good. The only answer is a very much intensified anti-Diphtheria campaign.

Dysenteries

Dysentery					Cases	Deaths
Amoebic ..	..	..	..	..	92	2
Bacillary ..	..	..	..	..	22	..
Clinical ..	..	..	..	..	9	..
Total ..					123	2

Acute Anterior Poliomyelitis

ADMISSIONS BY MONTH

		January	February	March	April	May	June	July	August	September	October	November	December	Total
Cases ..	..	3	2	5	8	7	2	1	7	4	7	2	2	50
Deaths ..	..	..	..	2	1	..	1	..	..	2	1	1	..	8

AGE GROUP, SEX DISTRIBUTION, TYPES OF CASES OF POLIOMYELITIS

Age		0-1 year		1-2 years		2-5 years		5-10 years		10-15 years		15-20 years		20-30 years		30-40 years		40-50 years		Total	
Sex		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Paralytic	Cases	8	3	10	3	7	4	5	2	1	1	..	..	..	1	1	2	..	..	32	16
	Deaths	..	..	..	..	..	1	3	..	..	..	..	..	..	..	1	1	..	..	4	2
Non-Paralytic	Cases	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1
	Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	Cases	8	3	10	3	8	4	5	2	1	1	..	..	..	2	1	2	..	..	33	17
	Deaths	..	..	..	..	..	1	3	..	..	..	..	..	..	..	1	1	..	..	4	2

Fifty cases of Poliomyelitis were admitted during the year inclusive of one re-admission for physiotherapy treatment. Of the fifty cases, six died and two cases admitted in 1951, also died making a total of eight deaths for the year. Of the eight deaths, five were Bulbar in type. Altogether seven Bulbar cases had to go into the mechanical respirator, five of them died and two recovered. Of these two survivors, one a pregnant woman, delivered a full term life baby. Two of the Bulbar cases were flown by air from Bangkok through the courtesy of the British Consulate there.

(1) Thirty-six out of the fifty cases were in children under five years of age.

(2) The disease is more common in males.

(3) High percentage of the cases were paralytic in nature.

The British Red Cross Society provided an English school teacher to give some educational therapy to these children.

NATIONALITY AND DAYS IN HOSPITALS

Race	REMAINING 31-12-52		ADMITTED 1952		TOTAL 1952	
		No. of days of Hospital	No. of Patients	No. of days in Hospital	Total No. of Patients	Total No. of Hospital days
Europeans	1	134	47	614	48	748
Eurasians .. ..	..	..	46	657	46	657
Indians	17	1,051	313	3,849	330	4,900
Chinese	102	6,991	1,258	18,512	1,360	25,503
Malays	1	273	125	1,636	126	1,909
Others .. ..	..	..	7	61	7	61
Total ..	121	8,649	1,796	25,329	1,917	33,778

STAFF

The staff position has been considerably eased with an increased number of appointments during the year.

In conclusion, I wish to thank Professors Ransome, Monteiro, Mekie and Cameron for acting as consultants to this hospital and to members of the staff for their active co-operation and spirit of service.

NE SEE YOOK, L.M.S. (S'pore), D.P.H. (Lond.),
*Medical Superintendent, Middleton Hospital,
 Singapore.*

CITY MARKETS

UN SOUND FOODSTUFFS

POULTRY AMOUNTING to 3,865 heads, 18,600 eggs, 123 pounds of mutton and 217,303 katties (approximately 129.35 tons) of unsound foodstuffs were removed from the City markets and delivered to the City incinerator for destruction.

PUBLIC WEIGHING SCALES

Avery Spring Balances with a maximum capacity of 28 lb. were installed in all markets for public use.

REVENUE FROM FISH AUCTIONS

Revenue for the 5 per cent commission on Wet Fish Auction Sales shewed a slight increase over the previous year. This was due to the increased prices of fish.

TABLE A

Market			Period	Quantity landed and auctioned	Total auction value	Total of 5% commission collected
				<i>kattis</i>	\$ c.	\$ c.
Ellenborough	..	..	1952	6,128,266½	3,826,238 20	191,311 91
Clyde Terrace	..	..	1952	2,587,884	1,524,838 00	76,241 90
Total			..	8,716,150½	5,351,176 20	267,553 81

TABLE B

TOTAL REVENUE

<i>Market</i>		1952	
		\$	c.
1.	Clyde Terrace*	...	144,272 90
2.	Kandang Kerbau	...	32,769 40
3.	Orchard Road	...	28,980 60
4.	Sims Avenue	...	10,964 00
5.	Grange Road	...	4,369 20
6.	Ellenborough*	...	257,848 91
7.	Telok Ayer	...	36,827 60
8.	Maxwell Road	...	22,146 00
9.	Peoples Park	...	12,292 00
Total		...	550,470 61

* 5 per cent Commission on Fish Auction Sales included.

RETURNS

Daily and weekly returns were made to the Department of Fisheries, showing the weight, place of origin and prices of fish passing through the Clyde Terrace and Ellenborough Markets. Monthly returns of the average Market Prices were also made to the Department of Statistics, Singapore.

I attach the returns showing the quantity of unsound foodstuffs destroyed and a summary of the vacant stalls as at 31st December, 1952.

KOH CHENG KHIANG, CERT. R.S.I.,
Acting Market Inspector.

SUMMARY OF UNSOUND FOODSTUFFS DESTROYED

For the year 1952

Market	FISH				MEAT			VEGETABLES AND FRUITS				POULTRY		Mis- cellaneous
	Fresh	Shell	Boiled	Salted	Beef	Mutton	Pork	Fresh Vege- tables	Dry Vege- tables	Salted Vege- tables	Fresh Fruits	Live- stock	Eggs	
	<i>Kattis</i>	<i>Kattis</i>	<i>Kattis</i>	<i>Kattis</i>	<i>Kattis</i>	<i>lbs.</i>	<i>Kattis</i>	<i>Kattis</i>	<i>Kattis</i>	<i>Kattis</i>	<i>Kattis</i>	<i>Heads</i>	<i>Tens</i>	<i>Kattis</i>
Clyde Terrace ..	8,054	60	..	30	..	..	..	26,300	..	..	2,875	496	253	..
Ellenborough ..	14,470	8,335	..	..	..	..	..	7,100	9,690	..	1,745	537	536	855
Telok Ayer ..	18	268	..	..	..	..	..	45,420	31,070	..	9,350	259	152	2,550
Kandang Kerbau ..	1,069	2,272	..	577	..	..	..	3,522	..	..	3,179	545	302	..
Orehard Road ..	334	7,293	..	..	246	..	..	4,080	..	..	9,355	151	..	1,589
People's Park ..	..	..	..	..	..	..	..	2,020	..	..	..	762	..	..
Maxwell ..	1,500	842	..	..	229	123	181	4,753	..	..	..	980	197	..
Grange Road ..	302	..	..	..	..	..	..	1,048	..	..	735	..	..	396
Sims Avenue ..	430	439	..	..	..	..	..	1,827	25	..	135	420	..	735
Total ..	26,177	19,509	..	607	475	123	181	96,070	40,785	..	27,374	3,865	1,860	6,125

SUMMARY OF VACANT SLABS AND STALLS AS AT 31ST DECEMBER, 1952

Description	Clyde Terrace	Ellenborough	Telok Ayer	Kandang Kerbau	Orchard Road	Peoples Park	Maxwell	Grange Road	Sims Avenue	Remarks
Fish ..	22	1	5	..	5	15	31	4	4	
MEAT:—										
(a) Beef ..	..	..	..	..	..	2	..	..	..
(b) Mutton ..	..	..	1	1	1	..	1	..	..
(c) Pork ..	..	..	..	..	..	16	..	..	..
VEGETABLES:—										
(a) Fresh ..	..	..	2	..	..	..	35	1	2	
(b) Salted ..	1	..	..	..	..	1	..	1	..	
(c) Dry ..	..	1	..	..	..	..	..	..	..
(d) Dry and Salted ..	..	..	..	..	..	..	..	..	..
POULTRY:—										
Livestock ..	..	7	..	..	..	..	1	1	..	
Eggs ..	..	..	..	..	..	2	..	..	..
Dry-Goods ..	2	1	..	..	..	..	5	2	10	
MISCELLANEOUS:—										
Beancake ..	..	..	..	..	..	..	6	..	..
Hawkers ..	..	..	..	..	..	..	..	..	..
Dressed Duck ..	..	..	..	..	..	1	2	..	..
Money-changer ..	..	..	..	..	..	..	..	..	..
Curry Stuff ..	..	..	..	..	..	1	..	..	..
Hawkers, Eating—Large ..	..	1	..	..	..	..	..	..	..
Ice Block ..	..	..	..	..	..	..	..	..	..
Soda Fountain ..	..	..	..	1	..	..	..	..	..
Provision ..	..	..	..	..	..	..	..	..	..
Total ..	25	11	8	2	6	38	81	9	16	

MUNICIPAL ABATTOIRS

DURING THE year, 386,674 animals were slaughtered in the Municipal Abattoirs; 320,076 being swine, 4,248 oxen, 2,314 buffaloes, 4 horses, 57,743 sheep, 2,288 goats and 1 deer.

156 swine, 4 oxen, 10 buffaloes, 166 sheep and 30 goats died in the pens.
Ninety-one swine died in the depot.

Twenty-five swine, 28 oxen, 12 buffaloes, 85 sheep and 6 goats were totally condemned.

	Swine	Oxen	Buffa- loes	Horses	Sheep	Goats	Deer
Admitted for slaughter, 1952	320,192	4,269	2,313	4	57,968	2,319	1
Slaughtered, 1952 ..	320,076	4,248	2,314	4	57,743	2,288	1
Died in pens	156	4	10	..	166	30	..
Died in depot	91	..	..	..	..	..	..
Carcases condemned ..	25	28	12	..	85	6	..
Diseased organs, etc. condem- ned and destroyed in tons..	9.3	3.04	3.96	..	3.62	0.1	0.002

TOTAL RECEIPTS FOR THE YEAR 1952

	\$	c.
Fees for slaughter at Cattle section	...	19,758 00
Fees for slaughter at Sheep section	...	60,288 00
Fees for slaughter at Pig section	...	640,384 00
Fees for storage at French Road Depot	...	11,104 10
Fees for inspection of wild boar carcasses	...	26 00
Receipts as pen rents (all slaughter houses)	...	26,739 00
Receipts for sale of pigs' bristles	...	180 00
Receipts for sale of blood	...	540 00
Total Receipts for the year 1952	...	759,019 10
Total Receipts for the year 1951	...	573,361 45

Special slaughtering licences issued during the year 1952
(7 swine at \$10 each and 24 sheep and 29 goats at \$5 each) 335 00

J. L. DA SILVA,
Superintendent of Abattoirs.

SANITARY INSPECTORS SECTION

STAFF

AT THE beginning of the year the staff was comprised of the Chief Sanitary Inspector, two Divisional Sanitary Inspectors, four Senior Sanitary Inspectors, two Food and Drugs Inspectors, seventeen qualified Sanitary Inspectors and ten probationary Sanitary Inspectors.

The Chief Sanitary Inspector, Mr. J. B. McMorine who retired on 2nd September, 1952, went on leave prior to retirement in March 1952. For changes in staff throughout the year see Appendix A.

SANITARY WORK

During the year there were 9,553 man-working days. Of these 489 days vacation leave were granted and 95 days sick leave taken. 366 days (including Sundays and Holidays) were spent in office and/or Middleton Hospital on standby duty. 732 days were spent for Meat Inspection at the Abattoir. The remaining 7,871 days were utilised as follows.

House to House Inspection

103 days were spent on house to house inspection of a routine nature. 1,196 houses were inspected. Notices were served on owners to carry out repairs to their premises where necessary and in addition to these, a total of 389 Limewash Notices were served.

Kampong Inspections

Kampong inspections were carried out in connection with Kampong Sanitation and the enforcement of the Swine By-laws. 200 man-working days were spent during which 2,835 huts were inspected.

Complaints Investigated

A total of 818 complaints were received from the general public during the year involving 8,415 visits. For summary see Appendix B.

Food and Drugs

556 samples were taken for chemical analysis during the year by the Sanitary staff. For list of samples, see Appendix C.

Routine inspection of premises in connection with unsound food was carried out by the Food and Drugs Inspectors involving 5,871 visits. 30,600 tins, 778 bottles, 2,048 cases, 34 boxes, 318 packets, 887 lbs. of assorted provisions, 25 crates of potatoes and 255 katties of fish, vegetables and fruits (unsound) were surrendered and destroyed.

The Singapore Harbour Board authorities were also requested to destroy food which was decayed or putrefied or unfit for human consumption which was found in their godowns. For list unsound food, see Appendix C 1.

Meat Inspection

Two Inspectors were sent daily (including Sundays and Holidays) to assist in the inspection of meat. A total of 732 man working days spent.

Offences and Prosecutions

607 summonses were applied for all types of infringements of the Ordinance and By-laws.

Court proceedings took up 287 man-working days. There were 696 prosecutions including 32 Police cases *re* illegal slaughter with 577 convictions. 111 summonses were not served and 28 summonses withdrawn. Total fines amounted to \$30,925.09.

Infectious Disease

Chickenpox	...	...	413	C.S.M.	...	...	5
Typhoid	...	...	136	Poliomyelitis	...	...	45
Diphtheria	...	...	352	Typhus	...	...	16

95 lepers were investigated and dealt with.

Throat swabs were taken from diphtheria contacts where necessary.

259 cases of Infectious Disease were removed to Middleton Hospital by Inspectors on standby duty.

121 passengers signing surveillance were cautioned to report to the Health Officer for inspection.

44 premises in which cases of Poliomyelitis occurred and their vicinities were dealt with by barrier spraying of Detrene Dip and refuse disposed of after treatment.

In the investigation of Infectious Disease, a total of 1,675 visits and revisits were made.

Inspection of Premises

Inspections carried out on other classes of premises not included in the above, total 38,981 visits. For details, see Appendix *D*.

Notices

A total of 706 notices were served throughout the year. Of these 650 were complied with. For summary of notices, see Appendix *E*.

Reports to Other Departments

City Building Department	...	...	...	443
City Cleansing Department	...	...	...	104
City Sewerage Department	...	...	...	35
City Fire Brigade	...	...	...	25
Other Departments	...	...	...	15

GENERAL

Private Cemeteries

The Inspector of Burial Grounds went on leave prior to retirement on 12th May, 1952. The supervision of the private burial grounds within the City and the exhumation of remains was carried out by the Sanitary Inspectors whose districts included the various cemeteries.

Vaccination

Owing to the shortage of a vaccinator on the Clinic Staff, one qualified Sanitary Inspector carried out the duties of a relief vaccinator at one of the Welfare Clinics during the months of May and June.

With the start of the vaccination campaign against small-pox in August 1952, it was found necessary to engage 12 vaccinators on a temporary basis. Their services were terminated at the end of the campaign on 31st December, 1952.

For details of vaccination campaign, see Appendix F.

Towgay growing

In January, the experimental growth of towgay with tap water was carried out by the City Analyst on the premises of one of the growers. In this connection, the Sanitary Inspectors kept a 24 hour vigil during the period of the experiments from 16th January (noon) to 19th January (6 a.m.) in conjunction with the staff of the City Analyst Department.

Observations on standpipes

Observations on standpipes were carried out throughout the year by the Sanitary staff in connection with—

- (a) recommendations for additional standpipes in certain areas within the City or removal of redundant ones.
- (b) obtaining data for the proposed erection of public bath and wash houses in the City.

Inspectors carried out standby duty in connection with Infectious Disease, at night throughout the year.

The total number of visits during the year covering all categories of sanitary work was 57,881.

L. A. MARCUS,
Chief Sanitary Inspector.

APPENDIX A

CHANGES IN STAFF

Month			C.S.I.	D.S.I.	S.S.I.	Q.S.I.	P.S.I.	F. & D. I.	Total
January/February	..		1	2	4	17	10	2	36
February/August	..		..	2	4	17	10	2	35
September	..	..	1	1	4	17	10	2	35
October	..	..	1	2	3	17	10	2	35
November/December	..		1	2	3	17	12	2	37

APPENDIX B

COMPLAINTS

Complaints				No. of Complaints	Primary Visits	Revisits	Total Visits
Mosquito	..	..	..	536	4,215	} 2,427	..
Other	..	..	..	282	1,773		..
Total				818	5,988	2,427	8,415

FOOD AND DRUGS

SAMPLES TAKEN FOR CHEMICAL ANALYSIS 1952

Soda Water	...	86	<i>Brought forward</i>	...	198
Peppermints	...	1	Milk	...	168
Popsicle	...	6	Ice Cream	...	21
Egg Powder	...	1	Well Water	...	44
Rice Vinegar	...	4	Soya Bean Sauce	...	6
Full Cream Cond. Milk	...	3	Condensed Milk (Sweetened)	...	10
Tinned Pineapple	...	2	Orange Kist	...	3
Castor Sugar	...	12	Cooking Product	...	4
Icing Sugar	...	5	Dessicated Coconut	...	2
Lemon Crush	...	1	Colouring Matter	...	1
Vinegar	...	2	Orange Juice Cordial	...	3
Margarine	...	4	Black Vinegar	...	1
Gingelly Oil	...	9	Coffee Mixture	...	27
Brussels Sprouts	...	1	Orange Smash	...	2
Groundnut and Til Oil	...	1	Ghee	...	2
Pork Sausages	...	5	Tea	...	2
Orange Crush Cordial	...	1	Tea Dust	...	5
Bean Curd	...	1	Lemon and Barley Cordial	...	1
Mushrooms	...	2	Sardines	...	1
Groundnut Oil	...	4	Cheese	...	2
Cooked Ham	...	3	Aerated Water	...	4
Cream	...	2	Jam	...	3
Wheat Flour	...	2	Beef Dripping	...	1
Coffee Powder	...	7	Cooking Oil	...	1
Coca-Cola	...	1	Honey	...	2
Orange Crush	...	1	Pepper Powder	...	5
Ground Coriander	...	6	Ground Tumeric	...	2
Luncheon Meat	...	2	Ground Chilly	...	1
Barley Water	...	1	Almond Syrup	...	6
Beans	...	1	Crab Meat	...	4
Coffee and Chicory Essence	...	1	Lard	...	1
Tincture Iodine	...	7	Camphorated Oil	...	8
Pepper Mixture	...	1	Coriander Seeds	...	1
Barley Syrup	...	1	Lemon Barley Water	...	1
Abalone	...	1	Sesame Seed	...	2
Black Draught	...	1	Children Cough Remedy	...	1
Dalbys Carminative	...	2	Cough Mixture	...	1
Zinc Ointment	...	1	Cough Cure	...	1
Assorted Sweets	...	1	Castor Oil and Zinc Ointment	...	1
Canned Assorted Vegetables	...	1	Curry Powder	...	4
White Bread	...	1	Brown Bread	...	1
Whisky	...	2	Instant Coffee	...	1
Condensed Unsweetened Milk	...	1	Rose Syrup	...	1
<i>Carried forward</i>	...	198	<i>Total</i>	...	556

UN SOUND FOOD IN HARBOUR BOARD GODOWNS

57 bags and 9 crates—Potatoes	1 crate, 49 cases, 13 cartons—Assorted Provisions.
3 bags—Onions	9 bags—Potato Sweepings
1 case—Condensed Milk	39 cases—Figs
871 bags—Flour	2 cases—Raisins
4 bags—Malt	11 bags—Rice Sweepings
2 tins—Milk Powder	9 bundles—Cuttlefish
1 tin—Indian Food	26 bags—Sugar Sweepings
3 bags—Salt Fish	48 bags—Dhall Beans
4 bags—Red Beans	14 bags—Peas, Maize Sweepings

APPENDIX D

INSPECTION OF PREMISES

Measuring Schools	...	...	...	7
Smoke Observations	...	...	...	20
Using Nightsoil as Manure	...	...	...	17
Foundries	...	...	...	3
Sauce Factories	...	...	...	238
Oil Mills	...	...	...	136
Saw Mills	...	...	...	86
Places of Entertainment	...	...	...	398
Coffee Roasting and Grinding	...	...	...	52
Printing Presses	...	...	...	395
Licensed Premises	...	...	...	24,067
Public Houses	...	...	...	1,014
Daily Fines	...	...	...	771
Serving Notices	...	...	...	822
Cautioning Cases	...	...	...	599
City Markets	...	...	...	1,051
Private Markets	...	...	...	351
Unlicensed Premises	...	...	...	2,175
Native Passenger Lodging Houses	...	...	...	160
Inspecting Notices	...	...	...	1,083
Dry Cleaners	...	...	...	55
Goldsmiths	...	...	...	84
Labour Ordinance	...	...	...	7
Other Premises	...	...	...	5,390
Total				38,981

APPENDIX E

SUMMARY OF NOTICES

Type of Notices	B/f	Served	Total	Complied with	Cancelled	C/f
Intimation Notices ..	45	285	330	254	23	53
Limewash Notices ..	49	389	438	367	..	71
Nuisance Notices ..	26	29	55	25	5	25
Abatement Orders ..	4	3	7	4	..	3
Total ..	124	706	830	650	28	152

VACCINATION CAMPAIGN

In connection with the general campaign of immunization against small-pox of the population in the Colony, voluntary vaccination of the population within the City Limits began on 20th August, 1952 with the opening of five Vaccination Centres at the City Welfare Clinics namely:—

1. Prinsep Street Clinic.
2. Kreta Ayer Clinic.
3. Tiong Bahru Clinic.
4. Balestier Road Clinic.
5. Joo Chiat Road Clinic.

Vaccinations were carried out by the existing staff of vaccinators, qualified Sanitary Inspectors on the health staff and twelve temporary vaccinators.

In addition to the vaccinations that were carried out at the Clinics, vaccination teams made up entirely of qualified Sanitary Inspectors visited various offices and premises within the City to comply with the requests for vaccination. In this connection a total of 174 visits were made by these teams and 25,150 vaccinations were done.

Other additional facilities that were provided to the public included:—

- (a) visits to all the Kampongs in the City Area by vaccination teams;
- (b) establishing vaccination centres at both public and private markets and other public places;
- (c) visits by vaccination teams at night to the various amusement parks;
- (d) visits to the labourers lines of the City Council and artisan quarters in the City by vaccination teams;
- (e) visit by vaccination teams to the built up area within the City.

Throughout the whole campaign a total of 283,670 vaccinations, made up of 139,696 males and 143,974 females, were performed by the staff.

SUMMARY OF APPLICATIONS FOR VACCINATIONS

Business houses	...	...	...	93
Community Centres	...	...	...	6
City, Government Departments	...	...	...	51
Improvement Trust	...	...	...	2
Singapore Harbour Board	...	...	...	10
Army Establishments	...	...	...	6
Clubs and Associations	...	...	...	6
Total				174

SUMMARY OF VACCINATION BY THE STAFF QUALIFIED SANITARY INSPECTORS

Vaccinations at the Clinics	...	...	98,399
Vaccinations at Offices, etc.	...	...	25,150
			123,549

VACCINATORS

Vaccinations at the Clinics	...	...	116,161
Vaccinations at Kampongs, public places, etc.	...	...	43,960
			160,121
Total			283,670

VACCINATION RETURNS FOR THE CITY AREA FROM 20TH AUGUST TO 31ST DECEMBER, 1952

		Males	Females	Total
Joo Chiat Clinic	...	15,032	22,955	37,987
Prinsep Street Clinic	...	28,313	38,986	67,299
Balestier Road Clinic	...	12,858	16,392	29,250
Kreta Ayer Clinic	...	23,876	26,700	50,576
Tiong Bahru Clinic	...	13,031	16,789	29,820
Kampongs	...	6,516	5,999	12,515
Miscellaneous	...	40,070	16,153	56,223
		139,696	143,974	283,670

RETURN OF LICENCES ISSUED UNDER THE FOOD SHOP BY-LAWS

DURING THE YEAR 1952

Nature of Licence	Per Annum	Number Issued	Cash received	DETAILS OF LICENCES ISSUED											Re-issue		
				For One Year	For One Month	For 2 Months	For 3 Months	For 4 Months	For 5 Months	For 6 Months	For 7 Months	For 8 Months	For 9 Months	For 10 Months		For 11 Months	
BAKERIES	\$ 48	28	\$ 1,324 00	27	..	..	..	..	..	..	1	..	..	..	..	..	..
	48	6	268 00	5	..	..	..	..	..	..	1	..	..	..	..	..	..
	48	36	1,728 00	36	..	..	..	..	..	..	..	..	..	..	..	..	..
	48	10	452 00	8	..	..	..	..	..	..	..	..	1	..	..	..	..
BUTCHERS SHOPS, ETC.	48	78	3,684 00	76	1	..	..	..	..	..	..	1	..	..	..	..	..
	48	3	144 00	3	..	..	..	..	..	..	..	..	..	..	..	..	1
	48	2	72 00	1	..	..	..	..	..	1	..	..	..	..	..	..	..
	48	2	96 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..
	48	21	1,008 00	21	..	..	..	..	..	..	..	..	..	..	..	..	..
	48	3	136 00	2	..	..	..	..	..	..	..	..	..	..	1	..	..
EATING HOUSES, ETC.	48	990	45,884 00	923	9	4	6	5	6	6	7	7	5	8	4	35	1
	48	152	7,204 00	148	..	..	..	1	..	1	1	1	..	..	..	..	..
	48	51	2,284 00	43	..	1	2	..	..	..	..	..	1	3	..	1	..
	48	12	576 00	12	..	..	..	..	..	..	..	..	..	..	..	..	..
	48	1	48 00	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	48	1	28 00	..	..	..	..	..	..	..	1	..	..	..	..	..	..
	48	12	560 00	11	..	..	..	..	..	..	..	1	..	..	..	..	..
	12	90	1,080 00	90	..	..	..	..	..	..	1	..	61	11	..	3	..
	48	292	12,428 00	201	..	..	..	..	..	..	..	..	..	..	..	..	..
	48	3	144 00	3	..	..	..	..	..	..	..	..	..	..	..	..	1
Possession of Wild Boar Flesh	48	24	1,036 00	20	..	1	1	1	..	..	..	..	..	1	..	..	..
	48	4	156 00	3	..	..	1	..	..	..	..	..	..	..	..	..	..
Total ..		1,821	80,340 00	1,636	10	6	10	7	6	26	12	12	68	24	4	42	

RETURN OF LICENCES ISSUED UNDER THE OFFENSIVE TRADE BY-LAWS

DURING THE YEAR, 1952

Nature of Licence	Per Annum	Number Issued	Cash received	DETAILS OF LICENCES ISSUED											Re-issue				
				For One Year	For One Month	For 2 Months	For 3 Months	For 4 Months	For 5 Months	For 6 Months	For 7 Months	For 8 Months	For 9 Months	For 10 Months		For 11 Months			
Blachan Store	\$ 36	2	\$ 72 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
Brick Kiln ..	75	2	150 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Charcoal Making	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dye House ..	18	6	108 00	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drying and Sorting Fish	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fruit Preserving	75	2	150 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Importation of Meat	..	13	3,336 18	9	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..
Knacker's Yard	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lime Making	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lye Making ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Laundry ..	12	297	3,564 00	297	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Offal Boiling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pottery Works	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Private Market	600	6	3,600 00	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rags and Bones Store	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sago Factory	75	4	300 00	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauce Factory	18	21	378 00	21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sheep or Goat Pen	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sick Receiving House	1	4	4 00	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Soap Boiling	18	7	126 00	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sugar Boiling	75	2	150 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tannery ..	75	3	225 00	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauce Mixture Factory ..	18	3	54 00	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Carried forward		372	12,217 18	368	..	4	..	..	..	..	..	..	..	..	..	..	..	..	9

RETURN OF LICENCES ISSUED UNDER THE OFFENSIVE TRADE BY-LAWS—continued

DURING THE YEAR, 1952—continued.

Nature of Licence	Per Annum	Number Issued	Cash received	DETAILS OF LICENCES ISSUED											Re-issue	
				For One Year	For One Month	For 2 Months	For 3 Months	For 4 Months	For 5 Months	For 6 Months	For 7 Months	For 8 Months	For 9 Months	For 10 Months		For 11 Months
Brought forward ..	\$	372	\$ 12,217 18 c.	368	..	4	..	..	..	..	..	..	..	..	..	9
Oil Mill ..	18	12	199 50	11	1	..	..	..	..	..	..	1	..	..	..	..
Coffee Roasting and Grinding ..	18	5	81 00	4	..	..	..	..	..	..	..	..	..	..	..	..
Refining Precious Metals by the Acid Process ..	18	10	180 00	10	..	..	..	..	..	..	..	..	..	..	..	..
CATTLESHEDES, PONYSTABLES, COWSHEDS:																
9 Animals and Under per head @ ..	1.50	1	7 50	1	..	..	..	..	..	..	..	..	..	..	..	..
10—14 Animals ..	15.00	1	15 00	1	..	..	..	..	..	..	..	..	..	..	..	..
15—24 " ..	22.50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25—50 " ..	37.50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Over 50 " ..	75.00	1	75 00	1	..	..	..	..	..	..	..	..	..	..	..	..
Total ..		402	12,775 18	396	1	4	..	..	..	..	..	1	..	..	..	9

HEALTH DEPARTMENT

RETURN OF PROSECUTIONS FOR THE YEAR, 1952

Offences	TOTAL					Remarks
	Prosecu- tions	With- drawn	Not Served	Convic- tions	Fines	
					\$ c.	
MUNICIPAL ORDINANCE						
Obstructions .. .. .	..	..	..	..	..	Section 120
Offensive matter flowing into Public Drain ..	..	..	..	..	..	131
Establishing a private market ..	..	..	..	..	..	198
Unlicensed Offensive Trades ..	87	12	20	55	7,590 00	211
Using nightsoil/or urine as manure ..	..	..	..	..	..	213
Latrine, etc. notice not complied with ..	..	..	..	..	..	219
Nightsoil kept for more than 48 hours ..	..	..	..	..	..	223
Filthy premises	9	..	..	9	250 00	233
Linewash notice not complied with ..	2	..	..	2	30 00	234
Non-Compliance of notice for the destruction of rats and mice .. .. .	..	..	..	..	..	235
Non-compliance of notice of demolition order of insanitary dwelling .. .. .	..	..	..	..	..	236
Allowing premises to be overerowed ..	..	..	..	..	..	237
Non-compliance with Nuisance Notice ..	10	1	..	9	325 00	246
.. .. . Order ..	4	..	..	4	705 00	247
.. .. . Prohibition Order ..	1	..	1	..	..	247
Non-compliance of order for demolition of house unfit for human habitation ..	..	..	..	..	..	248
Non-compliance with Well Notice ..	..	..	..	..	..	254
Opening Well without permission ..	..	..	..	..	..	254
License not exhibited .. .. .	..	..	..	..	..	381
Breaches of Offensive Trades By-laws ..	3	..	..	3	70 00	..

RETURN OF PROSECUTIONS FOR THE YEAR, 1952—continued

Offences	TOTAL					Remarks
	Prosecu- tions	With- drawn	Not Served	Convic- tions	Fines \$ c.	
BY-LAWS SECTIONS 58 AND 211 M.O.						
Unlicensed Foodshops	184	11	17	156	10,760 00	
“ Milk Vendors	32	..	21	11	270 00	
Opening licensed premises during prohibited hours ..	..	..	..	..	..
Conveying milk for sale without regulation bottles ..	..	..	..	..	..
Failing to have name and address marked upon the vehicle/ can .. ..	..	..	..	..	..
Keeping Swine in a prohibited area	197	2	21	174	2,925 00	
Filthy Stables, Cowsheds, etc. .. ..	..	..	..	..	..
Breaches of the Foodshop By-laws	15	..	..	15	315 00	
MARKETS AND SLAUGHTER HOUSES						
Selling vegetables within 50 yards of market .. Section 193	..	..	..	..	..
Unsound Food .. ..	..	..	..	..	..
Slaughtering Animals except in Abattoirs	54	..	..	54	2,255 00	
Market By-laws	24	..	..	24	475 00	
SALE OF FOOD AND DRUGS ORDINANCE						
Selling Adulterated Milk Section 11-1	45	1	31	13	810 00	
“ Coffee Mixture	11	..	..	11	1,480 00	
“ Coffee Powder	1	..	..	1	200 00	
“ Coriander powder	1	..	..	1	50 00	
“ Milk Deficient in Fat .. ..	..	..	..	..	..

HEALTH DEPARTMENT—continued

RETURN OF PROSECUTIONS FOR THE YEAR, 1952—continued

Offences	TOTAL					Remarks
	Prosecu- tions	With- drawn	Not Served	Convic- tions	Fines	
SALE OF FOOD AND DRUGS ORDINANCE—contd.						
Selling Adulterated Coffee Section 11-1	1	..	..	1	\$ 300 00	
" " Pepper 11-1	2	..	..	2	50 00	
" " Gingly Oil 11-1	1	..	..	1	250 00	
" Orange Cordial containing saccharin	1	..	..	1	200 00	
" Barley Syrup " "	1	..	..	1	25 00	
" Almond Syrup " "	1	..	..	1	25 00	
" " " " and without						
" English Label 11-1	1	..	..	1	45 00	
" Orange Crush containing saccharin and without						
" English Label 11-1	1	..	..	1	200 00	
" Almond Syrup without English Label	1	..	..	1	20 00	
" Castor Sugar with a false Label	1	..	..	1	250 00	
" Coffee " " Oil and without English	1	..	..	1	300 00	
" Adulterated Groundnut						
" Label 11-1	1	..	..	1	300 00	
" Adulterated Gingly Oil and Containing Mineral						
" Oil 11-1	1	..	..	1	250 00	
" Food bearing a label that the contents was Ghee						
" which was false and not Ghee and without a English						
" Label 11-1	1	..	..	1	200 00	
Manufacturing Adulterated Groundnut Oil and bearing a						
" false Label 11-1	1	1	..	..	..

Summary				
Total Prosecutions ..	..	696		
" Withdrawn ..	..	28		
" Not Served ..	..	111		
" Convictions ..	..	557		
" Fines ..	..	\$30,925.09		

N.B.—Costs are not included in the amount of fines.
Costs \$265.50